First Copy

Fleet Owner

evoted to the better operation and maintenance of all automotive fleets

OLUME 25 AUGUST, 1940 No. 2

"WHITE SUPER POWER Has Proved itself in our Service... Able to rn at Least $1200 More per Tractor per Year"

... says H. D. Horton
PRESIDENT
HORTON MOTOR LINES, Charlotte

N SOME KINDS OF BUSINESS, trucks are a sideline . . . but not the transport business. Transport ucks must make money . . . every llar of revenue, every penny of ofit comes directly from the earn- g power of the trucks themselves.

hat's why it is so significant that e nation's leading motor carriers ve made White Super Power their st choice in trucks.

he experience of Horton Motor nes, of Charlotte, one of America's rgest transport companies is typical. Its president, H. D. Horton, says:

"White Super Power Trucks have proved themselves in our service able to earn at least $1200 more per truck per year."

Four items of extra earnings contribute toward this $1200 total. First, Super Power's ability to carry 1,000 lbs. extra payload, due to the chassis weight saving. Second, at least one mile more per gallon of gasoline. Third, faster trip time, because of better average speeds in traffic and on hills, with no increase in top speed. Fourth, remarkably low maintenance expense even after 200,000 miles of service.

You may not buy your truck mileage on the same huge wholesale scale as transport companies like Horton Motor Lines, but you can buy it at the same low wholesale rate. Your local White Branch or Dealer will gladly arrange a Super Power demonstration for you . . . in your own service, with your own driver at the wheel. THE WHITE MOTOR COMPANY, Cleveland.

SUPER White POWER

Lower Maintenance Costs with

CHAMPION SPARK PLUGS!

IF YOU WERE to ask successful fleet operators the secret of their success, you would probably learn that the lowest maintenance costs consistent with dependable service is their golden rule. In this you would find spark plugs a vital factor, and Champions the preferred spark plugs among outstanding operators.

From all over the country—yes, from all over the world—come letters of praise for Champion Spark Plugs and telling how instrumental they are in the success of every conceivable type of operation. And they are not reports of one year or two years of satisfaction but 8 years, 10 years and even more.

Naturally if Champion Spark Plugs can increase the economy of a fleet of buses, trucks or cars by lowering gas and oil consumption, they lower maintenance costs. If they can increase the dependability of a fleet by stopping costly roadside delays and repairs, they lower maintenance costs. If they cut down spark plug consumption, they lower maintenance costs. And that's just what Champion Spark Plugs are doing and have been doing year after year.

If you are having any spark plug problems or feel that your fleet is not as economical or dependable as it might be, we would welcome the opportunity to have one of our factory engineers consult with you. Champions have lowered maintenance costs for others—and can do the same for you.

Laub's
THE JACOB LAUB BAKING CO. · 4919 LORAIN AVENUE · CLEVELAND · OHIO
SINCE 1889
MEtropole 4630
May 27, 1940
Champion Spark Plug Co.
Toledo, Ohio
Gentlemen:
It isn't often that we write testimonial letters but our service from Champion Spark Plugs has been so satisfactory that we felt you ought to know about it.
We have used Champion Spark Plugs exclusively in our fleet of 197 trucks for 8 years. During that time Champions have been instrumental in lowering our maintenance costs by increasing the economy and dependability of our engines. You certainly can depend on Champions
Very truly yours,
THE JACOB LAUB BAKING CO.
Henry Friedrich
H. Friedrich
Superintendent
CHAMPION
PATENTED
CHAMPION
SPARK PLUG

TRUSTWORTHY

-through the years

This seal is found ONLY on BLACKHAWK JACKS — your assurance of a wise investment.

DEPENDABLE performance? Yes, sir! Thousands upon thousands of drivers, mechanics, shop and fleet operators have thrilled to the way these "Service-Proved" Hydraulics handle day-after-day jobs. Powerful, easy to operate, smooth acting, speedy. On the road or in the shop, they're always "in the groove" — saving you more time — paying you more profits — by keeping rolling stock rolling. That's the way Blackhawk Jacks have stood the test of toughest service year after year to win a reputation for unmatched dependability and trustworthiness.

A Product of

BLACKHAWK MFG. CO.

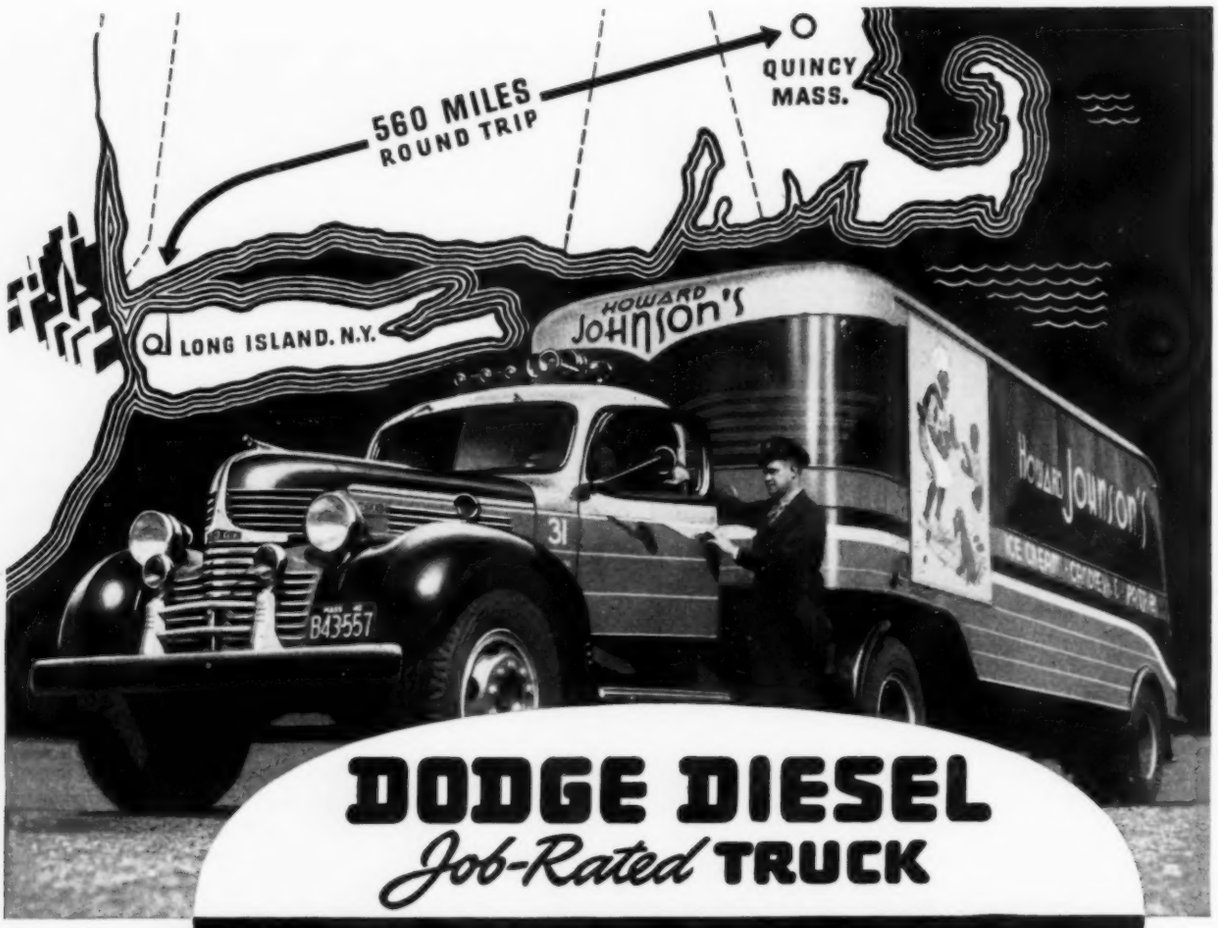
Department J780 MILWAUKEE, WIS.

Proof!

Blackhawk is the only complete line of hydraulic hand jacks — 20 models — 1 to 75 tons capacity. Also big line of service jacks; handle up to 7½ tons.

BLACKHAWK

MORE FOR YOUR MONEY SERVICE EQUIPMENT



DODGE DIESEL
Job-Rated TRUCK

CUTS FUEL COST FROM $17.60 TO $4.20 ON 560 MILE RUN!

READ WHAT MR. JOHNSON SAYS ABOUT HIS DODGE DIESEL

"Fuel consumption averages 60 gallons of Diesel oil per trip at 7c per gallon, compared to 110 gallons of gasoline at 16c per gallon consumed by our previous gasoline unit with the same trailer and load. The additional power of the Diesel has also made possible a reduction in the running time of nearly two hours each way."

HOWARD D. JOHNSON COMPANY
Howard D. Johnson, *Treasurer*
Wollaston, Mass.

A RAPIDLY INCREASING number of long-distance and heavy-duty haulers are saving big money with Dodge heavy-duty Job-Rated Diesels. The Howard Johnson Company's experience quoted herewith is just a typical case. Think of it—$13.40 saved on a 560-mile run—*and on fuel alone!* And that's just a part of the cost-cutting advantage of a powerful quality-built Dodge Diesel. We have a booklet that's crammed full of Dodge Diesel owner experiences. It's free! Write to Dodge or ask your Dodge dealer for a copy. See him today for low delivered prices and easy budget terms.

DODGE DIVISION, CHRYSLER CORPORATION, DETROIT, MICH.

PRICED LOWER THAN ANY OTHER DIESEL OF EQUAL CAPACITY AND POWER

DEPEND ON DODGE *Job-Rated* TRUCKS

3-2-1½-1-¾-½ TON CAPACITIES... 106 STANDARD CHASSIS AND BODY MODELS ON 17 WHEELBASES

Dependable DODGE TRUCK SERVICE *Everywhere*

SEE YOUR DODGE DEALER FOR DEPENDABLE USED TRUCKS

Bearing Protection...

Under Loads Like This!

25 cu. yd. CARRY-ALL, built by Wooldridge Mfg. Co. at Sunnyvale, California. All heavy equipment here is lubricated with *Texaco Marfak*. This selection is based upon their experience that only Marfak meets their needs.

EASIER STEERING is assured when the steering connections and wheel bearings are lubricated with *Texaco Marfak*. This lubricant protects your investment, by protecting parts *twice as long* as ordinary grease.

YOU CAN haul the heaviest loads over the roughest terrain, in the hottest weather . . . assured of full protection . . . when you use *Texaco Marfak*. *Texaco Marfak* protects wheel bearings, steering connections and chassis parts *twice* as long as ordinary grease.

Containing high grade heavy-bodied mineral oil, *Texaco Marfak* provides a tough film equal to the heaviest loads. Marfak is tough, stringy, fibre free.

Texaco Marfak seals out dirt, mud, road water. Does not separate, leak out, to get on your brake lining, because it maintains its original consistency at the outer edges of the bearing while lubricating effectively within.

Trained automotive engineers will gladly demonstrate savings with *Texaco Marfak* in your heaviest equipment. Phone the nearest of more than 2300 warehousing points in the 48 States, or write:

The Texas Company, 135 E. 42nd St., N.Y., N.Y.

•

Texaco Dealers invite you to tune in The Texaco Star Theatre—starring Kenny Baker and Frances Langford—Every Wednesday Night—Columbia Network—9:00 E.D.T., 8:00 E.S.T., 8:00 C.D.T., 7:00 C.S.T., 6:00 M.S.T., 5:00 P.S.T.

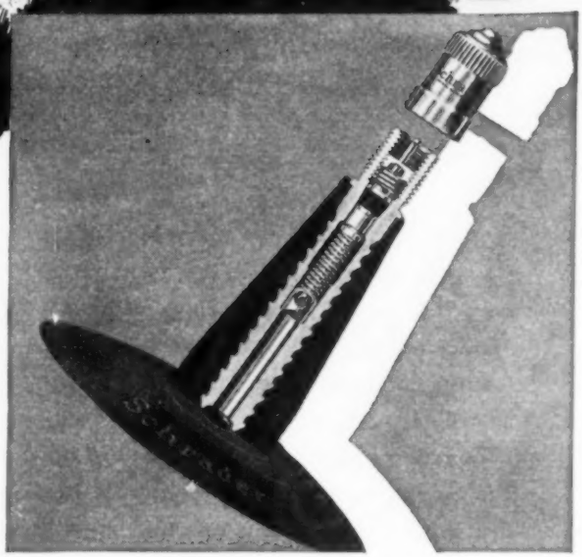
TEXACO
REG. T.M.

TEXACO MARFAK

IT'S MILEAGE THAT COUNTS

Tire service is reckoned in miles . . . but, actually this service is extended over a period of years. This means that tire valves must be built to last, not just a few months, but two, three, five and even more years.

Schrader Tire Valves meet the requirements of mileAGE. Their design and construction leave nothing to chance. Long-lived to begin with, their replaceable parts feature is a practical guarantee of serviceability even beyond the life of the tire.



SCHRADER TIRE VALVES PROVIDE

1. **ECONOMY.** *Replaceable valve cores save time and money and assure speedy service everywhere.*

2. **PROTECTION.** *Unique air-tight valve cap seals the valve mouth and protects the mechanism within from harmful dirt and grit.*

As a guarantee of prompt service to tire users, Schrader type Replaceable Valves and Valve Caps are stocked wherever pneumatic tires are used throughout the world.

Schrader
REG. U.S. PAT. OFF.
TIRE VALVES

A. SCHRADER'S SON **BROOKLYN, NEW YORK**
Division of Scovill Manufacturing Company, Incorporated

IT'S YOUR BUSINESS TO KNOW

ABOUT AMERICAN BRAKEBLOK LINING

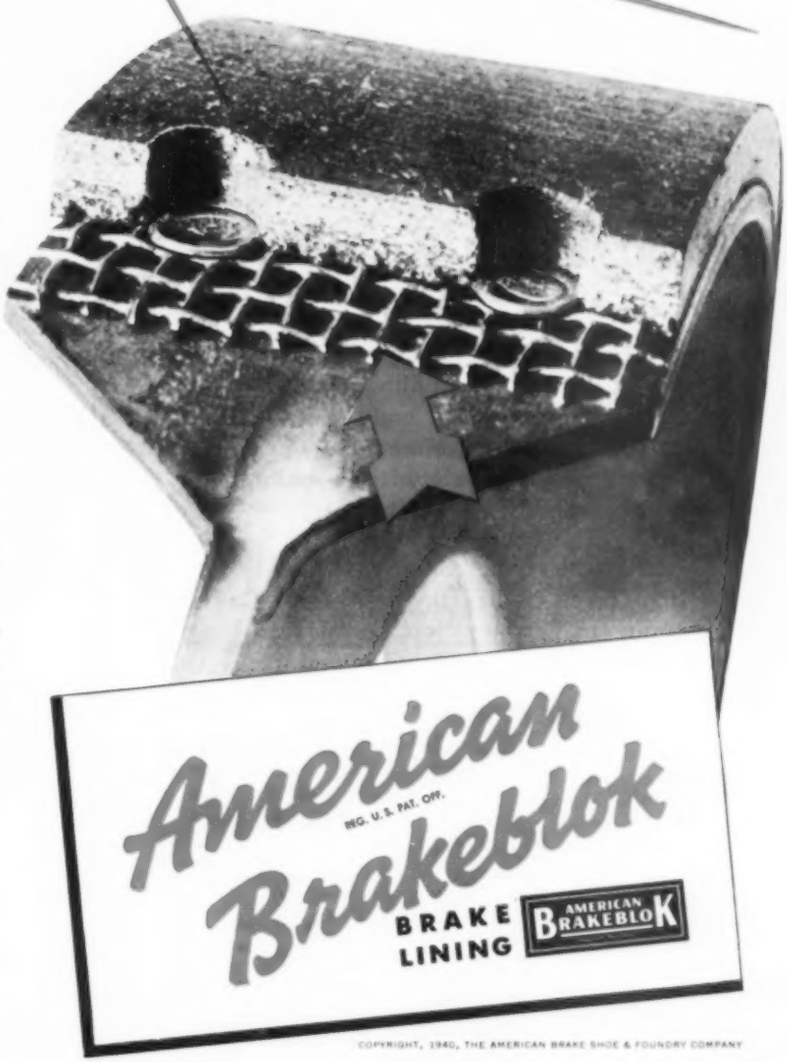
● A nice chunk of fleet operating profit is made or lost in buying brake lining. It's good business to dig deep into *costs*—not mere first costs of lining installation, but rather the real costs in service. There you discover the profit-saving advantages of American Brakeblok lining . . . greater mileage between adjustments and replacement . . . less road-trouble . . . fewer accidents . . . faster schedules . . . deliveries on time.

This *tougher* brake lining with its wire-mesh backing (permitting deep-sunk rivets) gives you more *usable* thickness and consequently more miles of stops per dollar. American Brakeblok wire backing anchors the lining to the shoe, prevents the shifting, creeping, buckling that tend to cause squealing.

This husky American Brakeblok lining is easy on the brake drums, easy on the driver, and easy on you and your cost record.

* * *

Make it your business *to prove American Brakeblok lining by putting it to a merciless test on* the worst *jobs . . . you'll go right down the line on your whole fleet with this* cost-cutting *American Brakeblok lining.*



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AMERICAN BRAKEBLOK DIVISION OF THE AMERICAN BRAKE SHOE & FOUNDRY CO., DETROIT, MICHIGAN

MORE MILES OF SAFER STOPS PER DOLLAR

Save with Safety

OAKITE CLEANING MATERIALS AND METHODS SAVE TIME MONEY AND EFFORT ON ALL MAINTENANCE JOBS

For Example: WASHING TRUCK BODIES THOROUGHLY, SAFELY

Leading fleet operators get full advertising value from their fleets by keeping their trucks clean . . . looking practically like new!

You, too, will find good maintenance and economy go hand in hand when you do this work with specially developed Oakite materials. For mild solutions of the recommended Oakite material thoroughly, speedily remove every trace of road film, dirt and grime, so that rinsing leaves body finish clean, bright, fresh-looking. Moreover, you do the job with complete safety . . . painted or lacquered surfaces are not harmed.

And . . . when you "Save with Safety" by washing truck bodies the successful Oakite way, you save money, too, because no long, hard scrubbing and scouring is required.

WRITE FOR FREE BOOKLET

Let us give you, without obligation, more specific data on this work. Also ask for FREE 36-page booklet packed full with money-saving tips on parts cleaning, cooling system maintenance, steam cleaning and many other cleaning jobs. Write today.

NATION-WIDE SERVICE ON THESE JOBS

Washing painted and lacquered truck bodies

Cleaning motors and repair parts

Cleaning radiators and water jackets of motors

Disinfecting and deodorizing food truck interiors

Cleaning service station and garage floors

OAKITE Certified CLEANING

Manufactured only by
OAKITE PRODUCTS, INC., 52G THAMES STREET, NEW YORK, N. Y.
Representatives in All Principal Cities of the United States and Canada

FLEET OWNER

(Automotive Fleet Headquarters)

Charter CCA Member

Published Monthly in the interests of Automotive Fleet Owners, who do all or part of their own Service, and devoted to the Better Operation and Maintenance of Truck, Trailer, Bus, Passenger Car, Taxicab and all Automotive Fleets.

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"GREATEST MILEAGE TIRE EVER BUILT!"
—that's what truckers everywhere say about the Goodyear YKL-SS in hundreds of reports like these:

"PLENTY OF TREAD AFTER 52,000 MILES!"

"In nine months we put 52,000 miles on our unit equipped with Goodyear YKL-SS tires and there is still plenty of tread design showing. On a second unit another make of heavy-duty tires were completely smooth at 35,000 miles."

*_____TRUCKING COMPANY, PENNSYLVANIA

"MORE MILES PER DOLLAR!"

"I now have 82 Goodyear YKL-SS tires in operation, some with two or more recaps. Before recaps these tires averaged between 42,000 and 50,000 miles compared with 14,000 to 20,000 miles from conventional tires. Your YKL-SS delivers more miles per dollar than any tire I ever used."

*_____LIVESTOCK TRANSPORTATION, CALIF.

"LOWEST COST PER MILE!"

"Last summer I equipped a unit on my toughest run with Goodyear YKL-SS tires. This unit covers 500 to 800 miles per trip with an average payload of 15 tons. To date they've gone 30,000 miles and are not even to the re-grooving point. I feel sure they'll go 60,000 miles before retreading. Am now equipping all my fleet with YKL-SS as it's the lowest cost per mile tire I've ever known."

*_____MOTOR FREIGHT, PENNSYLVANIA

"GREATLY REDUCED COST PER MILE!"

"We have 10 Goodyear YKL-SS on one of our units covering a mountain run, which have already gone 27,836 miles and tread appears no more than one-third worn down. Expect to get at least 60,000 miles before recapping—other tires used on this run have averaged only about 25,000 miles before recapping. We are satisfied YKL-SS has greatly reduced our cost per mile."

*_____MOTOR TRANSPORT LINES, CALIF.

*Name on request

and here's the reason why

Standard Heavy Duty Tire 9.75-20
Goodyear YKL-SS 40
SUPER-THICK TREAD MEANS MORE MILES
THINNER CARCASS BUILT WITH RAYOTWIST GENERATES LESS HEAT, REDUCES UNSPRUNG WEIGHT

TRUCKERS

Use the YKL-SS where ordinary cotton tires wear their treads off without blowing out or otherwise failing from heat. See for yourself how much more mileage it delivers. All Goodyear Dealers have it.

THE GREATEST NAME IN RUBBER

GOODYEAR

YKL-SS Heavy-Duty Truck Tire

"The Mileage Marvel"

YKL, Rayotwist—T.M.'s The Goodyear Tire & Rubber Company

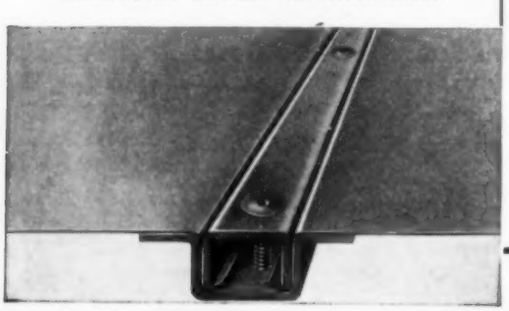
EXTRA STRENGTH—LIGHTER WEIGHT —because the body panels are "PRE-TENSED"

Lindsay Structure 22-ft. refrigerated frameless semi-trailer built by Trailer Service & Garage Co., Chicago.

PATENTED PRINCIPLE USES STEEL MORE EFFICIENTLY

Panel sheets in conventional type bodies are merely "hung on" the framework. The framing has to carry the entire load. If it is not unusually heavy, the structure "gives" and loosens. In Lindsay Structure bodies, the steel panel sheets act as braces—holding the frame members in a rigid "Pre-Tensed" grip. Thus, the steel in the panels as well as in the framing is used to resist road pounding.

Edges of Ls panel sheets locked in flanged frame by the "tensioner" and socket screws.



Are you looking for a truck body that can take lots of punishment—yet whose light weight will give you increased payloads? Bodies built of the new Lindsay Structure have just those features.

Truck operators who have tried the Ls body are amazed at the way it takes the curves. No swaying or twisting in this body. The tension in the panels holds the structure tight and rigid. And in case of an accident, you can merely take out a few screws and replace the damaged panel—from the *outside!* You don't have to touch the undamaged sections.

But what about cost? The mass production of Lindsay Structure parts in 4500 standard sizes enables you to order a custom-built body, within ½ inch of any desired size, that costs no more than conventional types. If you'd like to know more, write: Dry-Zero Corporation, 222 North Bank Drive, Chicago; or 60 East 42nd Street, New York.

There is an AUTHORIZED Ls BODY BUILDER in your locality

LINDSAY STRUCTURE

TRUCK BODIES

UTILIZES THE STRENGTH OF ALL THE STEEL

That Ad set him thinking!

"That week of the blitzfreeze early last winter sure put us all on the spot," said the fleet boss to the salesman.

"You and your batteries nearly got the gate. We had trucks stalled all over the place. Everybody blamed batteries . . . and so did I. Then late one night I happened to see that Sterling Cable ad.

"It set me thinking. We *didn't* know much about our cables . . . Maybe that *was* the answer.

"I took Sterling up on their offer of a special battery cable assortment suited to our fleet, and including their cable tester—and what I found out with that tester was plenty bad. I put new Sterling Non-Corrosive Battery Cables on every truck . . . didn't have another bit of trouble all winter . . . and I don't figure on trouble this winter. Gives your batteries a clean bill of health, too, so we can both thank Sterling Cables."

Again WE MAKE THIS SPECIAL OFFER

of a STERLING CABLE TESTER for only $1.25 with your order for a special assortment of Sterling Battery Cables suited to your fleet requirements. This tester is a high-grade voltmeter ordinarily priced from $6.00 to $8.00. Check cable condition NOW, before cold weather sets in. Replace old cables with Sterling Battery Cables. The Sterling terminal with its steel core positively will not corrode nor "stretch"—delivers full battery power. Send the coupon for full information about the Sterling Cable Assortment and Cable Tester.

Get this cable tester ...send the coupon!

Sterling

"AN AUTO-LITE PRODUCT"

AUTOMOTIVE CABLES FOR TRUCKS

Sterling Battery Cables • Sterling Steelductor and Silver-Sheathed Ignition Cables and Primary Wires

FO

STERLING CABLE DIVISION of the Electric Auto-Lite Company, **Port Huron, Michigan**

Please send full information about Sterling Battery Cables and the special assortment with which we can obtain the Battery Cable Tester for $1.25.

Name.....

Firm Name.....

Street Address.....

City and State.....

Believe It or Not!
by Ripley
REG. U.S. PATENT OFFICE
THE BISON WAS AMERICA'S FIRST SURVEYOR!
HIS TRAILS FOLLOWED THE FIRMEST GROUND AND GENTLEST GRADES. THUS THEY SHAPED THE COURSE OF THE EARLIEST RAILROADS!
BEFORE USING RING-FREE
1ST FILL OF RING-FREE
2ND FILL OF RING-FREE
3RD FILL OF RING-FREE
THE ONLY MOTOR OIL I'VE SEEN THAT ACTUALLY REMOVES CARBON AND AT THE SAME TIME DOES A THOROUGH LUBRICATING JOB!
Robert L. Ripley
1,000 YEARS AGO
THE INCAS OF PERU BUILT A PAVED ROAD 4000 MILES LONG
WIDE ENOUGH FOR 2 WAGONS—Yet NEVER TURNED A WHEEL ON IT!
WHEELS WERE UNKNOWN IN THE NEW WORLD UNTIL THE COMING OF COLUMBUS!

Believe it or not! **From the Maintenance Department of Caldwell Motor Freight, Detroit, Mich.,** comes this comment: "On dismantling motors we find them free of sludge and carbon, which reduces our cost of motor maintenance and increases performance." Into Caldwell's Detroit-Akron freight service recently went the first of nine ultra-modern new trailer trucks... twin engined... one or both engines may be used as needed... trailer capacity 30,000 pounds... the talk of the trucking industry. Like all the other Caldwell equipment they're doing a sweet job ... with Ring-Free in their crankcases.

Believe it or not! **Says Earl Clifford, Motor Analysis Specialist, Oakland, Cal.,** "I certainly was surprised while tuning a 1939 Pontiac 8... with 18,538 miles on it... using Ring-Free since new... to find on, removing the distributor, that by just washing the bottom of the shaft and wiping with a rag the metal showed through clean and bright. And I mean clean, too! Not a bit of carbon! The bottom of the distributor shaft has always been my measuring stick of the amount of carbon and sludge covering the engine parts in the crankcase. I highly recommend Ring-Free for a clean and smooth running engine."

DISTRIBUTORS: A few territories in the United States are still available to live distributors who can qualify. Write for particulars.

*Reg. U. S. Patent Office

Ring-Free's rare ability to remove carbon ... is important to the maintenance cost of a fleet. It means: free rings; a cleaner motor and fewer overhauls. And... Believe It or Not!*... there are no additives in Ring-Free. It's all oil... the oiliest of oils! That's why it further reduces motor friction; reduces wear; delivers more power and more gas-mileage. Proof? Call the Macmillan Man.

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MACMILLAN PETROLEUM CORPORATION

50 WEST 50TH STREET, NEW YORK • 624 SOUTH MICHIGAN AVENUE, CHICAGO • 530 WEST 6TH STREET, LOS ANGELES

Our Standards—
YOUR REQUIREMENTS

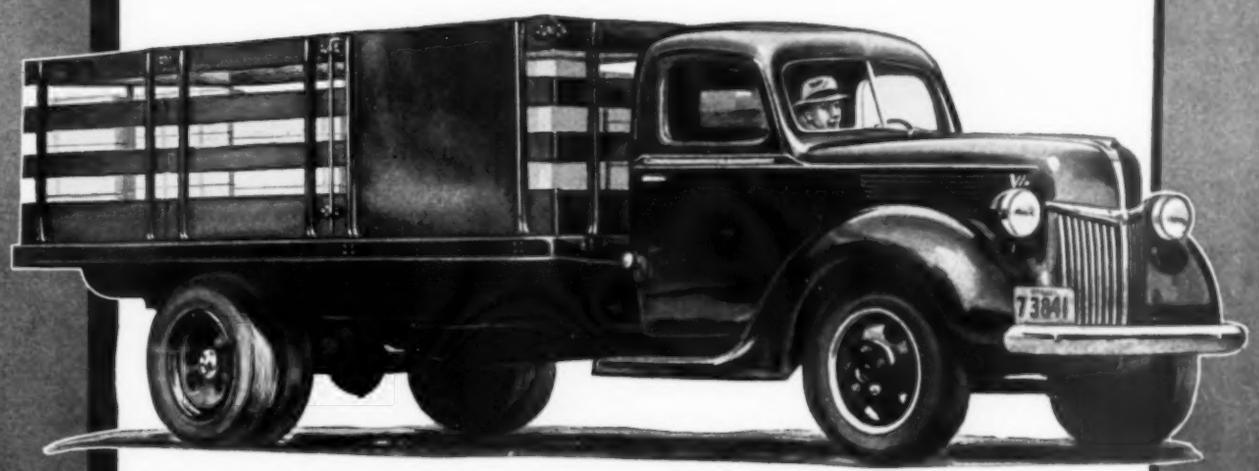
THE ideal delivery equipment for you is the equipment that comes nearest your exact requirements. We know that. We build trucks for you, not for ourselves.

But we reserve the privilege of satisfying our own standards with respect to quality. Quality, in a Ford unit, means many things. Long-lasting, special alloy steels. Advanced engineering for better performance, tighter control of running costs. Good body design, with emphasis on smart appearance and an eye toward ease of working the load. Sound body construction for load protection.

Try a Ford on your job. Ask your dealer about a free "on-the-job" test with your own driver at the wheel. He'll have some good things to say about easy handling, quietness and comfort. And *you'll* be pleased when you see how little a Ford costs to own and operate.

•

VISIT THE NEW FORD EXPOSITIONS AT THE TWO FAIRS, NEW YORK AND SAN FRANCISCO, 1940

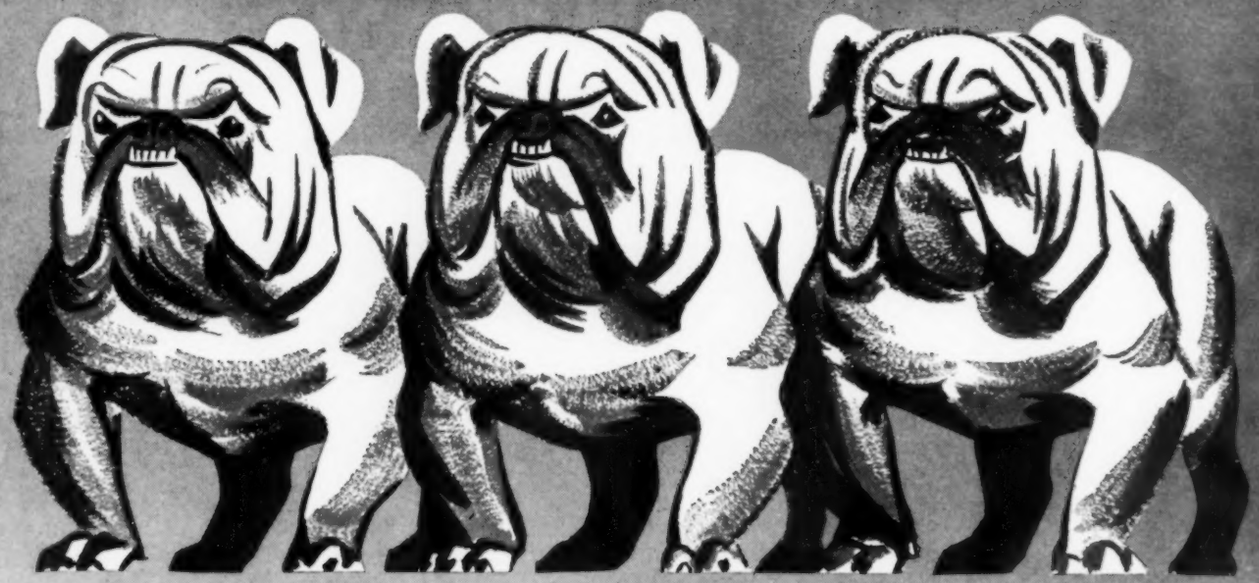


Dual tires, as illustrated, available at small extra cost

FORD TRUCKS
AND COMMERCIAL CARS

FORD MOTOR COMPANY, BUILDERS OF FORD V-8 AND MERCURY CARS, FORD TRUCKS, COMMERCIAL CARS, STATION WAGONS AND TRANSIT BUSES.

Nothing's too tough for us to tackle!



THE NEW LIGHT MACKS —

All the Bulldog stamina that's made Mack world-famous!

HEAVY-DUTY "Bulldog" Mack stamina in a "light" truck! With the rugged dependability and money-saving service that's made Mack world-famous! Thousands of enthusiastic owners are finding that the new Macks slash hauling costs—boost profit margins.

These amazingly sturdy and economical new light Macks start in the 1-ton range—at $675.00 for standard chassis f.o.b. Allentown, Pa. Cab, body, and taxes extra.

NEW DORP DAIRY, Inc., FINDS HAULING COSTS UNUSUALLY LOW WITH MODEL ED MACKS . . .

"I can truthfully say that in performance and economy they are the best delivery units we ever had."

Arthur Krichner, President
Stapleton, S.I., New York City

MACK TRUCKS, INC., NEW YORK, N. Y.

Mack

THE MOST COMPLETE LINE OF TRUCKS IN THE WORLD—1 TO 45 TONS AND ALL "HEAVY-DUTY!"

VOL. 25
NO. 2

FLEET OWNER

AUGUST
1940

DEVOTED TO THE BETTER OPERATION AND MAINTENANCE OF TRUCK, TRAILER, BUS, TAXICAB, PASSENGER CAR, AND ALL AUTOMOTIVE FLEETS.

Stripping *the* Thread » »

(The Editor's Column)

MOTOR TRANSPORT IS READY!

● There's been *so* much talk about preparedness and war in newspapers, magazines and books—and on the radio—that we'd like to be a bit *different* and refrain from feeding you any more. . . . However, pride in our industry tempts us to get in "our oar" to the extent of pointing out a few things in connection with the truck industry and some of the jobs it *could* do, if the occasion arose. . . . First, there is our vast network of highways and our 30,000,000 motor vehicles—one for every 4.4 persons in the country. . . . Our four million trucks and trailers should be capable of quickly transporting plenty of supplies, quickly, to any spot where they may be needed. . . . Our three million miles of roads make practically every city, town and hamlet immediately accessible. . . . The flexibility of tractor-trailer combinations is another important factor. Power-plants that may be put out of commission can be easily replaced, without shifting the load. In addition, trailers would make ideal "mobile warehouses," as they can be loaded with supplies and then "spotted" at strategic points, ready to be moved to a vital sector on a moment's notice, providing the power-plants are ready. . . . It does not require a military expert to appreciate the importance and the value of this quick mobility. . . . Then there are the factories which have produced these peace-time transport units, which are capable of rapid conversion to the manufacture of war-time equipment, especially armored mechanized units that are proving so vital in modern combat. . . . It was during the first "world war" that the motor transport industry was given its big chance, which started it off towards its present and ever-growing position of importance. . . . The industry is now ready to play a most vital part in America's defense program by providing the swift, flexible transportation facilities needed, if called upon to help protect our shores from possible enemies without—and within, too!

●

DIESEL PIONEER

● For a long time in the past, the practicability of Diesel-powered trucks for slow-speed, short-haul, multi-stop work was greatly in doubt; in fact, many folks believed that the Diesel was "just not in the picture" when it came to this type of service, and that it was only good for long hauls, heavy loads and lots of mileage. . . . As early as 1938 (see March, 1938 issue, p. 15) this Editor recognized the fallacy of such a belief, and pointed out two examples to bear it out, one of which is elaborated on elsewhere in this issue. . . . After four years' use of 100% Diesel-power in slow-speed, heavy-duty dump trucks, the B. Turecamo Contracting Company has an interesting story to tell; and they tell it on page 22 of this issue. . . . Accompanying this editorial is a picture of one of their units at work—typical of the operation. . . . We have been told (and stop us if we are wrong) that this operator enjoys the distinction of being the *first* one in the vicinity of greater New York to go "all-Diesel." . . . Even though it be a relatively small fleet (20 trucks) we must give them credit for being a pioneer. And we believe that your careful reading of the article will constitute ample admiration, besides letting you in on some of the things they learned by experience. . . . If their experience is worth anything, it looks like Diesel power is quite o.k. for short-haul, slow-speed operation, as well as the other kind.

AUCTION. . . . Two ancient Studebaker electric cars, used for many years in the "subway" between the Capitol and the Senate office building in Washington, are "knocked down" at $35 for the pair. They cost Uncle Sam $2,400 each in 1909.

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H. Clay Fischer
Editor

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The Editor's Column » »

(Continued from Page 15)

CONSUMERS LOSERS

● Again, the consumer is the loser, when truck capacity (any type of truck) is restricted. . . . American Petroleum Institute has made some exhaustive studies which reveal that legislation designed to limit the capacity of tank-trucks has the direct effect of penalizing the consumers of petroleum products, who eventually must bear the increased costs. . . . They've got some fine charts and graphs to prove it, and they take into consideration all fixed costs, such as wages, license-fees, depreciation and insurance, as well as all variable costs, such as repairs, tires and motor fuel. . . . They highlight the fact that it costs more than twice as much to deliver a given quantity of gasoline in a 600-gallon unit, than it does when deliveries are made in a unit of 3,300 gallons capacity. . . . A reduction in capacity from 3,300 gallons to 1,500 gallons, for example, means an increase of 30% in transportation costs. . . . The same principle will work out in your own fleet, whether the product is beans or bananas. . . . Try it some time, and see for yourself.

●

EXTRA DIVIDEND

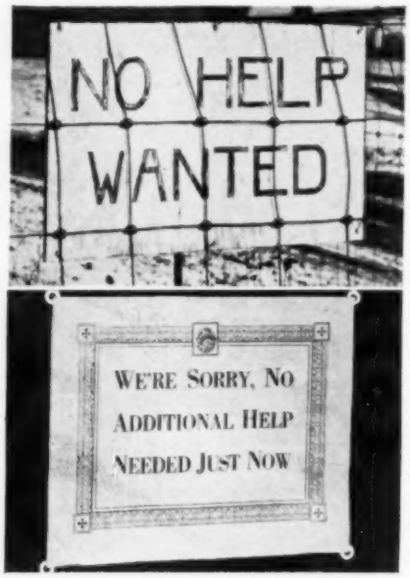
● Congratulations on a novel idea. . . . L. Clifford Goad, head of AC Spark Plug Division of General Motors, greets William Tremblay, left, AC toolmaker, whose suggestion will net the American Red Cross "a dividend and an extra dividend". . . . It all came about this way: For every month worked in which no accident occurs, AC awards each of its 5,000 employes in Flint a "dividend" in the form of a certificate good for trade in the plant's cafeterias. . . . "Em-

ployes should endorse their June dividend over to the American Red Cross for payment in cash," toolmaker Tremblay suggested. . . . "Fine idea," said President Goad. "AC will match every one of these donations. The company has made its regular Red Cross contribution, but this can be called an extra dividend". . . . P.S. Red Cross "dividends" are pouring in.

●

TWO WAYS

● There is a right way and a wrong way to handle people. . . . No one deserves more considerate treatment than the applicant for a job, and it makes no difference whether the applicant is trying for an executive position or a job somewhere down the line in the production department.



. . . The accompanying illustrations show a contrast which is indicative of two different attitudes toward applicants for work. . . . There probably was no intention on the part of the company who put up the crudely painted sign behind the barbed wire fence to give any definite impression except the fact that no help was wanted. . . . On the other hand, the neatly lettered sign on the employment door of a Detroit manufacturer of commercial trailers shows not only that there are no jobs at the present time, but that the company is genuinely sorry that this is the case. For which of these two concerns would *you* rather work? . . . Slightly Communistic, you say? Not on your tintype.

●

EMERGENCY UNIT

● Fleet operators in New Jersey, through the New Jersey Motor Truck Association, have decided to cooperate with a group of state, military and business officials, in the formation of a "Vehicle Emergency Mobilization Plan" to align organizations of trucks, buses, passenger-cars and other vehicles as trained units for possible defense or war-time use. . . . All vehicles to be available will be listed, and their drivers trained under the direction of State Police or the National Guard, so that they may be used for troop transport, evacuating citizens or home defense. Occasional drills and mass formations would be held with a view to supplementing Army and National Guard mobile units. . . . All vehicles in the program would carry a distinguishing metal emblem reading *"VEMP—I Will Serve."* . . . Preparations would be made for the use of the state's secondary roads in the movement of materials and supplies without disrupting regular traffic. . . . A. L. Rice, business manager of the New Jersey Motor Truck Association, said his group will cooperate in the "VEMP" program and already is starting, on its own initiative, a survey of members' equipment. . . . This survey, he explained, will not only list body types and other important mechanical data, but will also indicate how much equipment could be released in case of emergency without disrupting normal transportation of food and other vital commodities and materials. . . . The idea sounds like a good one for other state motor truck associations to follow, provided it is not overdone to the extent that everything turns out "military" and nothing "commercial."

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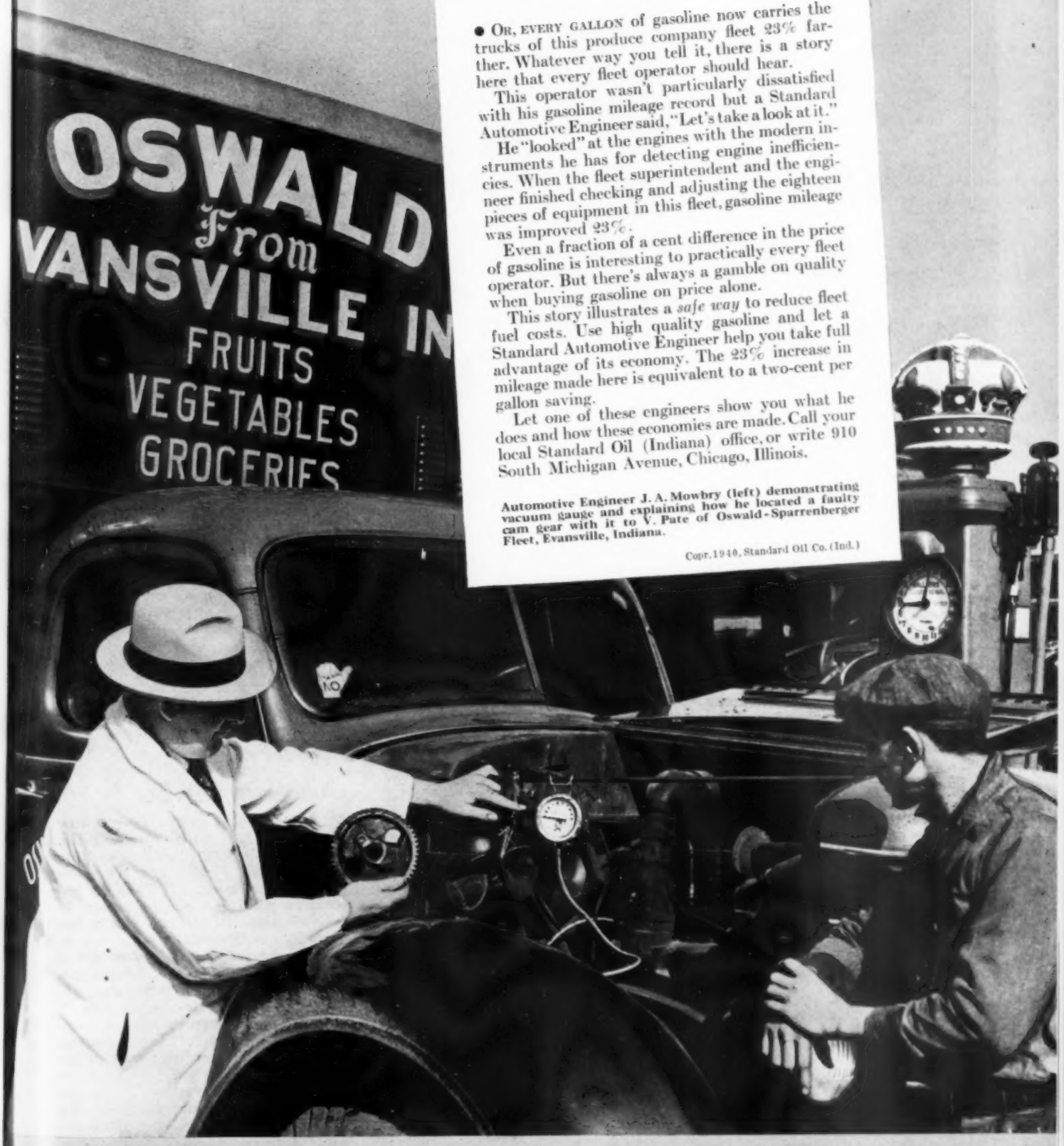
ACCOMPLISHMENT AWARD

● Charles F. Kettering, vice-president of General Motors Corporation, in charge of research (left), is shown receiving an Accomplishment Award pin from Max H. Schachner of Cleveland, sales manager of the Diesel Engine Division of General Motors Corporation. . . . These pins are awarded by the Diesel Engine

Division to salesmen and officials for outstanding accomplishment in the perfection and sales of General Motors 2-cycle Diesel engines. . . . For additional accomplishments, diamonds are added. . . . The pin presented to Mr. Kettering contained four diamonds—one in each corner.

NOW SAVES 18½ GALLONS OF GASOLINE OUT OF EVERY 100



• OR, EVERY GALLON of gasoline now carries the trucks of this produce company fleet 23% farther. Whatever way you tell it, there is a story here that every fleet operator should hear.

This operator wasn't particularly dissatisfied with his gasoline mileage record but a Standard Automotive Engineer said, "Let's take a look at it."

He "looked" at the engines with the modern instruments he has for detecting engine inefficiencies. When the fleet superintendent and the engineer finished checking and adjusting the eighteen pieces of equipment in this fleet, gasoline mileage was improved 23%.

Even a fraction of a cent difference in the price of gasoline is interesting to practically every fleet operator. But there's always a gamble on quality when buying gasoline on price alone.

This story illustrates a *safe way* to reduce fleet fuel costs. Use high quality gasoline and let a Standard Automotive Engineer help you take full advantage of its economy. The 23% increase in mileage made here is equivalent to a two-cent per gallon saving.

Let one of these engineers show you what he does and how these economies are made. Call your local Standard Oil (Indiana) office, or write 910 South Michigan Avenue, Chicago, Illinois.

Automotive Engineer J. A. Mowbry (left) demonstrating vacuum gauge and explaining how he located a faulty cam gear with it to V. Pate of Oswald-Sparrenberger Fleet, Evansville, Indiana.

Copr. 1940, Standard Oil Co. (Ind.)

STANDARD OIL COMPANY (INDIANA)

LUBRICATION ENGINEERING — *THE RIGHT LUBRICANT • PROPERLY APPLIED TO REDUCE COSTS*

Stripping *the* Thread » »

(Continued from Page 16)

FIRST OVER. . . . The distinction of being the first truck—and the largest toll-payer—to use the new unique floating bridge, recently completed over Lake Washington (Seattle), goes to the big truck-trailer combination snapped in the accompanying photo. . . . It's an outfit that rolls on 22 balloon tires and belongs to Consolidated Freightways, Inc., of Portland, Ore. . . . The bridge is said to be the longest pontoon bridge in the world. . . . We'd like to say the same about the vehicle combination. . . . Anyway, it's a new Diesel-powered six-wheeler, and it's pulling a full-trailer with one of those generous "Washington" loads. . . . The new bridge brings shippers closer to eastern Washington and Spokane, from Seattle.

"DEFENSIVE DRIVING"

● What are defensive driving tactics? . . . The National Safety Council says that they are habits which not only keep the truck driver himself out of trouble, but also do not force other drivers into situations that result in accidents. . . . Which is a splendid way of calling your attention to the fact that a course in *"Defensive Driving"* will be given on the campus of the University of Tennessee at Knoxville, August 12 to 24th. . . . Commercial vehicle fleet men are invited to attend, although it's rather late to tell you about it now. . . . Jim Hayden, chief fleet engineer for the National Safety Council, will officiate in giving the course, assisted by safety experts in the field of commercial fleet operation. . . . In addition, the course will cover management's responsibility for commercial vehicle accident-prevention, the balanced fleet safety program, accident investigation and photography, correct use of accident records, training and supervision of personnel, selection and maintenance of equipment, awards and penalties—and other interest-sustaining activities.

●

FRAMELESS?

● When is a frameless trailer *not* a frameless trailer? . . . Trailmobile answers that question, elsewhere in this issue, in their announcement of what is claimed to be a revolutionary principle in trailer construction. . . . At first blush we barged right in and dubbed their new offering a "frameless" job, but they stopped us, then and there, by declaring that theirs is an "outside-frame" trailer, and, although we looked high and low, we were darned if we could find any chassis—or frame, as we commonly know them. . . . Nevertheless that's their story and it should bear further investigation. . . . All of which is a fine way of giving their new product a bit of a plug, which we hope you don't mind.

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"VACATION" TO YOU

● Don't look now, but you'll note that our usual monthly questionnaire, in the Q-O-M Department, is conspicuous by its absence from this issue. There was none in last month's issue, either. . . . Realizing that the warm weather, vacations and all that sort of stuff kind of disorganizes one's daily routine, it is our custom to give you fellows (and ourselves) a break by omitting new questionnaires from the July and August issues, and we know that you appreciate this brief respite . . . The good old law-of-averages has taught us not to expect *too* much in the way of questionnaire-response during the hot weather. . . . That explains it. . . . But we'll be back at you, as strong as ever, with a new questionnaire in September. . . . And to those operators who have been interested enough to participate in this worth-while department, may we express our whole-hearted thanks. . . . If you have found your efforts repaid by the data which you get in return, we know you'll continue to work with us. . . . The beauty of this department is that fleet-men's cooperation is entirely self-starting; we have never used high-pressure, nor attempted to *urge* anyone to participate. . . . But we *would* like to see a wider response and hope that when the department is resumed next month, many new names will appear on the roster. . . . The new questionnaire will appear next month, without special announcement or fanfare.

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AIR-CLEANER REMINDER

● For every gallon of gasoline used by modern automotive engines, approximately 9,000 "gallons" of air are required, *Pontiac's* service department points out. . . . Thus the importance of keeping air-cleaners in "clean" condition becomes vitally important. . . . Especially so is this in the warm weather, when most air is highly impregnated with dust particles. . . . If you don't pay good attention to keeping air-cleaners "open", you're going to burn up a lot of gasoline unnecessarily. . . . Besides, an appreciable amount of the abrasive material in the air may pass into the engine, to promote rapid cylinder, piston, ring and bearing wear. . . . Remember those dust-storms, when engines were discovered that were actually "ground" to destruction within the bounds of a 25-mile run? . . . Of course, you realize all of this, but reminders do no harm, you know.

DIESEL for Alaska. . . . Alfred Ghezzi, 20-year-old Alaskan truckman, prepares to drive his new Dodge Diesel to Seattle, and thence ship it home. . . . L. J. Purdy, general manager of the Dodge truck plant is at the right.

IN A SPLIT-SECOND

mere finger pressure is transformed into a LIFTING FORCE of several tons

1. Exert a 2 lb. pressure on the end of jack handle "A".
2. This causes a 50 lb. downward pressure on piston "C" when "A" is 25 times as long as "B".
3. ... Which becomes a 2½ ton *upward* force on the ram, since the lower surface of the ram has 100 times the area of pump piston "C".

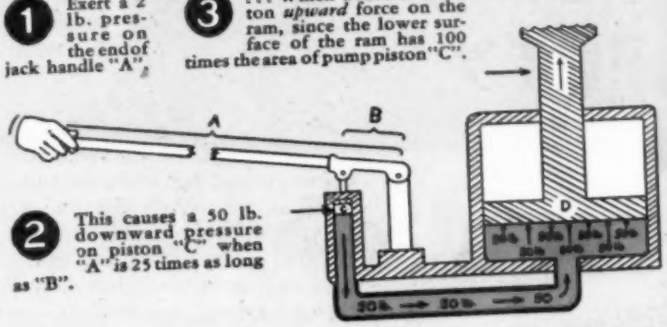


Diagram above shows basic principles of Hein-Werner Hydraulic Jack Power

"You've really got something in the Hein-Werner Jack with *perfected hydraulic unit.* It's tops for ease of operation, dependability and dollar-and-cents value. With this Jack a youngster can raise heavy loads with short, effortless strokes. What's the secret?"....

In answering this query from the owner of a Hein-Werner Hydraulic Jack we decided that many others might like to know the "secret"— so we're "going technical" in this ad.

One of the reasons for the giant power and amazing ease of operation of Hein-Werner Hydraulic Jacks is shown in the diagram. Applied force of 2 lbs. is raised to 50 lbs. by simple leverage . . . and from 50 lbs. to 2½ tons by frictionless hydraulics, based on Pascal's principle. If you want more information please write us.

The complete Hein-Werner line includes the "Bullet" 1½ ton capacity jack at only $2.80 . . . Light Truck Special, 2 ton model, $2.95 . . . 3 ton model, $6.95 . . . 5 ton, $8.95 . . . 8 ton, $11.75 . . . 12 ton, $17.50 . . . 20 ton, $30.00 . . . And for modern passenger cars, Light Model BUMPER-LIFT only $4.10 . . . Heavy Model, $5.45 . . . Model 1.30 Bumper-Lift Jack—It pumps from the top—$4.45. All prices are net to dealer, and slightly higher on West Coast.

HEIN-WERNER MOTOR PARTS CORP.
Waukesha, Wisconsin

FEW MODELS EACH DESIGNED TO DO THE WORK OF MANY
HEIN-WERNER hydraulic JACKS

Here's Some Timely Advice for Your Truck Drivers:

TRUCK DRIVERS' SAFETY CODE

•

By Harry Hartz,
Ex-Champion Racing-Driver, Test Driver, Chevrolet Truck Division, Detroit, Mich.

"WHEN common courtesy becomes a conscious practice of every truck driver and motorist on the highways, traffic accidents will decrease." This is the considered opinion of a top-flight American driver, whose records on the speedway and the highway are known throughout the automotive world. . . . Harry Hartz, formerly national champion race-driver and now a test-driver for Chevrolet Motor Division's commercial car department, has had an unusually wide range of experience behind the wheel.

Stressing the need for courtesy on the road, Harry Hartz explains here the signal system by which truck drivers endeavor to aid one another, and also to advise passenger-car drivers of their intentions. Let us permit Harry to tell it to you:

"The average truck driver," he says, "appreciates this interchange of information with his fellow-drivers, and tries in every way possible to advise them of conditions they are about to meet.

"He makes every effort to inform the passenger-car or other truck driver of his plans. For example, in the daytime, he warns an oncoming driver of danger ahead—in the way of a crack-up, a narrow bridge, a restricted speed zone,—by signaling with the hand, in a 'wave-down' motion, which indicates that the oncoming driver should reduce his speed and be on the alert for unusual conditions.

"However, since most of his driving is done at night, signals are usually made by manipulation of lights. Flashing the lights rapidly is the night-time 'wave-down.'

"When a driver approaching from the rear wishes to pass a truck, he should signal by means of his lights or his horn and then wait until the truck driver has blinked his trailer lights for the 'all clear' signal. The truck driver will often indicate with his spot-light when the passing car has cleared his unit and may safely cut back into the right-hand lane. Many drivers customarily honk once or twice as they pass, to thank the truck driver—a friendly, courteous act that is appreciated.

"When two trucks approach a dangerous area from opposing directions at night—say a one-lane bridge—the driver who is nearer the bridge will indicate that he is coming through, by swinging his spot-light in an arc across the road, and pulling out toward the center. The other driver then pulls well over, stops and dims for the unit coming ahead.

"Blinking of the trailer lights is also a stopping signal," Hartz said, "but some drivers often confuse it with the passing signal. Other truckers can usually tell the driver's intention, but motorists rarely pay enough attention to do so. Likewise, blinking can indicate a turn, if the trailer carries no turn-indicators. Here again, the other driver must study the circumstances and decide what intention the trucker is trying to convey.

"There are two things in particular which every driver can do to aid the truck driver and at the same time make for greater highway safety," Hartz asserted. "These are: more consideration in dimming, and paying greater heed to the flares and signals which truckers set out when their units are stopped along the roadside. When a truck stalls on a hill, or has met with an accident and is stopped, flares must be set out, according to law. Obviously, these signals are set for some good reason, and the driver who thoughtlessly comes on through, without diminishing speed, endangers not only himself but others as well.

"More than 90% of the driving done by the transport drivers of the country is night operation," he said. Since records show that traffic mishaps increase after sunset, his plea for greater care after dark is particularly fitting.

"Employ the same care and consideration that you would if you were walking down a crowded street," Hartz urged, "and highway accidents will decrease immediately."

Recently, Hartz established a new world record for sustained and certified automotive operation, driving a 1½-ton Chevrolet truck more than 101,000 miles to set the new mark. The entire run, under sanction of the American Automobile Association, impartial judge of auto testing activities, was completed without so much as denting a fender.

Hartz, a familiar figure at the Indianapolis Speedway, earned his right to membership in the truck-driving fraternity by establishing unusual performance records with the Chervolet test truck. Official AAA figures on the run tell the story. An average of 15.1 miles per gallon of fuel was maintained throughout the 101,000 miles, at an average operating speed of 33.07 miles per hour.

Ton-miles per gallon averaged 69.91, based on the 4,590-lb. fixed "payload" the unit carried throughout the run. Miles per quart of oil

(*Please turn to page* 58)

Murder in the Laboratory

A typical example of Goodrich improvement in tires

BEHIND the massive walls and bullet-proof glass of this tiny room in Akron, a tire is about to be blown to bits. A test of a new development in Goodrich truck and bus tires.

Water is pumped into the tire and gauges measure the mounting pressure. Up, up it goes — far above normal pressure. Still the gauge needle moves up, beyond the pressure any tire carries on the road. Higher, higher . . . and at last *bang!*—there she blows!

Tire after tire was blown up to the bursting point in the Goodrich laboratory—each with a different type carcass. Test after test was made to find the best construction consistent with the speeds, loads, and inflations to which tires are subjected. That construction was then adapted to all Goodrich Truck and Bus Tires—one more in the many improvements to their life and strength which Goodrich research is making constantly.

It was Goodrich research which developed Triple Protection—Goodrich research which brought forth the revolutionary Hi-Flex Cord now used in all Silvertown Tires.

This cord is of special value in truck operations. Its compactness makes possible the construction of a streamlined tire—a less bulky carcass. It does away with the "excess fat" which causes dangerously high tire temperatures. Because it runs cool you can carry the peak loads and hit the high speeds with far greater protection.

It's a safer tire on any count. The "murder" test proves it. And hundreds of truck operators will back up that statement. If you want to cut tire costs —with safety—talk to the Goodrich man today. Remember which, the name's Good*rich*. The B. F. Goodrich Company, Akron, Ohio; Los Angeles, California; Kitchener, Ontario.

Goodrich Silvertowns
FOR TRUCKS AND BUSES

STANDARDIZATION is evident in this fleet of 20 Diesel-powered dump-trucks.

"COMMON-SENSE

KEEPS CONTRACTOR'S 100% DIESEL-

WHEN DIESELS proved economical in this slow-speed, city-type operation, on short hauls and in congested areas, this fleet operator changed over his entire fleet. . . . In this article he tells you the things he did (and is doing) to make it practical and profitable.

YES, we like Diesels. We have been using them exclusively for almost four years in our entire fleet, engaged in heavy-duty, short-haul work in congested areas. Back-breaking jobs, such as the construction of the LaGuardia Airport in New York, in which our fleet participated prominently, provided just the right kind of a test, as we encountered all sorts of conditions, from heavy dust to heavy mud—hot and cold, dry and wet weather—our fleet doing a six-month stretch, 24 hours a day, on this particular job.

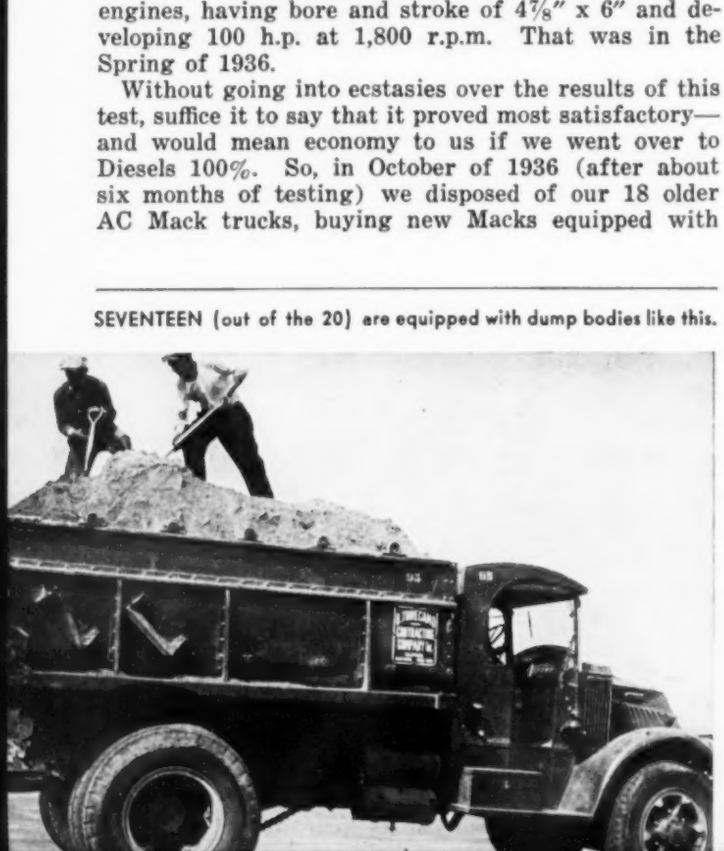
After four years of 100% Diesel-powered truck fleet operation, and especially in view of the fact that we are credited with being the first in this territory to go over 100% to Diesels, it is only natural that we are often asked, *"What have Diesels done for you?"* Well, the answer is that they have reduced our fleet maintenance costs about 25%, and have cut our fuel bills almost in half!

It was back in 1936 that we first thought of using Diesel power in our trucks. We knew that Diesels could save us money, for we were using them exclusively in tug-boats, operated by a subsidiary company. We also had them in some of our heavy industrial equipment, such as cranes, rollers, graders, etc., and we knew what they could do there.

At that time, we were about ready to replace our entire fleet of some 20 heavy-duty trucks, but we thought we'd run sort of a test operation first. We took two of our then newest jobs—AC Macks, and equipped them with 4-cylinder Cummins HB Diesel engines, having bore and stroke of 4⅞" x 6" and developing 100 h.p. at 1,800 r.p.m. That was in the Spring of 1936.

Without going into ecstasies over the results of this test, suffice it to say that it proved most satisfactory—and would mean economy to us if we went over to Diesels 100%. So, in October of 1936 (after about six months of testing) we disposed of our 18 older AC Mack trucks, buying new Macks equipped with the same type of 4-cylinder Cummins engine, previously mentioned. This resulted in our standardizing completely on both the trucks *and* the engines. The trucks are 7½ to 10-ton models; seventeen of them are equipped with dump bodies, as illustrated, and three of them are equipped with Jaeger ready-mixed concrete bodies.

SEVENTEEN (out of the 20) are equipped with dump bodies like this.



To us, generally, power is more important than speed. On the LaGuardia Airport job, for instance, we found it advisable to change the 15-tooth jackshaft drive sprockets to the 13-tooth size for the hard pull. However, on work requiring higher speeds and not so heavy loads, we can juggle the jackshaft sprockets around at will.

So far as operation and maintenance were concerned, we figured the best thing to do was to follow the manufacturer's recommendations exactly, until we were reasonably familiar with the new equipment; then we could experiment and change.

Most people ask about fuel-injection difficulties. We have had no fuel-pump trouble. Injector maintenance we handle the easy way: as long as the engine runs smoothly, as long as the drivers report no trouble, and the shop men don't hear a "miss"—we leave them alone. But we have 15 spare injectors and the minute a driver complains or a shop man doesn't like the sound of the motor, off comes an old one and on goes a new. Then the injector is taken apart, cleaned thoroughly, adjusted and checked and made ready for replacement service.

Our biggest Diesel problem has been with crankcase oil. First we had some trouble with dilution, caused by leakage from the check-valve of the injectors. We didn't lick that until Cummins brought out the new improved injectors where the needle closes off the

NOTE that all of them are of the same make and type; and carry the same engines.

MAINTENANCE"

POWERED TRUCK FLEET ON THE JOB

An Interview with
Paul F. D'Aleo,
General Manager,
B. Turecamo Contracting Co.,
Brooklyn, N. Y.

fuel supply while spraying, and seems to eliminate "dribble" completely. Then we traded-in all of our old injectors for the new models. No more trouble there.

We had been using paraffin-base crankcase oils, which were most satisfactory on our former gasoline operation. But with the lower operating temperature of Diesels we had sludge and foam and condensation to cope with. Eventually we learned that by using a napthenic type oil, we could avoid sludge and get greater oil life; and this is the type we are using now.

Following through on this crankcase oil problem, we supplemented the built-in filters of the Cummins Diesel engine with *auxiliary* oil filters of the by-pass type, equipped with a cotton-waste element. Under all sorts of conditions—even hot, dry, extreme dusty operation—we have found that these filters *triple* the life of crankcase oil.

Keeping the oil clean is highly important in Diesel operation, and as long as the oil *is* clean there is no trouble on that score. Because our work varies so greatly in character, we have not been able to establish any standard, either in miles or operating hours, for the frequency of oil-change. We rely on *physical* inspection instead.

Crankcase levels are checked every night, and every Saturday the condition of the oil in each crankcase is inspected. You may not call this highly scientific, but our experience has been that the men who service the trucks daily are competent enough judges of our oil condition, and we have not had any bearing or other trouble which might result from insufficient oil-changing.

Every time the oil is changed, we put a new element in the filter, to start the new oil off with a clean filter; we also use a crankcase flushing machine which we think is highly beneficial to engine life.

We're not much on "fancy" record-keeping. We'd rather see all the trucks rolling than look at a beautiful set of records. So we have tried to keep the "paper work" down and use what we call the "common-sense upkeep" system. We have experimented with different record forms of our own, and have tried out systems recommended by various manufacturers.

The plan we are now using looks like the best, so far. Here it is: Each driver, every day, turns in a "Complaint Slip" on which is listed almost everything that could possibly be wrong with the truck. If the driver has any complaints, he checks the items that he wants the shop men to look at. If not, he simply signs the slip, indicating no complaints. The Maintenance Superintendent looks over all the Complaint Slips every night and lays out the work schedule accordingly.

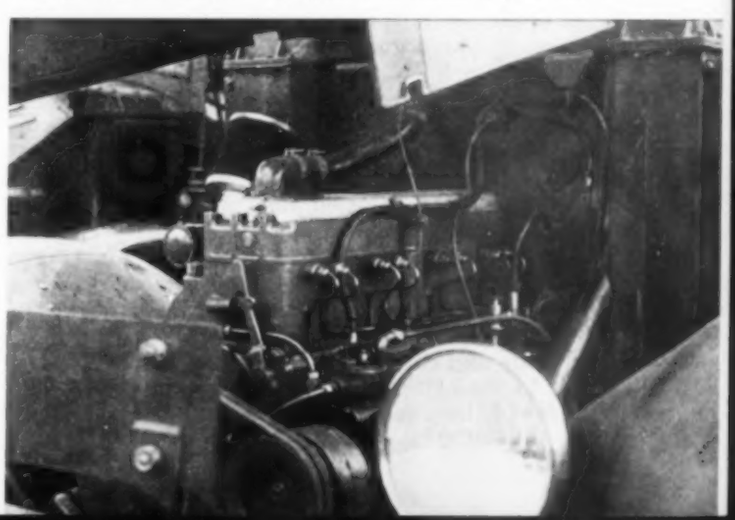
The back of the Complaint Slip is used as the shop record of work done, which the office force later transfers to the record card for each truck. This card tells the fuel and lubricant consumption of the truck, as well as any maintenance work done.

Our shop is organized like a "service station." There are eleven men (including helpers), each a "specialist" on one particular phase of keeping the trucks rolling. Of course, these same men work on the maintenance of our tug-boat engines, and also on our fleet of heavy-duty industrial equipment, consisting of cranes, air-compressors, pavers, bulldozers, graders, asphalt rollers, watering pumps, vibrators, finishers, concrete-mixers, etc. We operate quite a large assortment of them. If we had only the trucks to maintain, we would have to "double up" and let each shop man handle several different jobs. Describing their duties will show how the "common sense upkeep" works.

Our idea is that maintenance should be done by

(*Please turn to page* 24)

TWENTY (all of 'em) are equipped with Diesel engines like this.



qualified experts. We don't hire our drivers to be mechanics, and while they may take care of some small emergency on the road in case of absolute necessity, we want our shop "specialists" to do all the work.

The tire man checks and examines every tire, every morning. The tires are uniform: 12.75 x 24 on the rear wheels and the 10.50 size on front. Sometimes the pressure has to be adjusted for unusual operating conditions. In the summer, for instance, trucks in heavy duty may build up too much extra pressure. The tire man compensates for that by starting the truck out with a little less air. If there are cuts or bruises, it's the tire man's job to have the change made before the driver is ready to go out. He also inspects radiators for water content daily.

The lubrication man is required to grease every truck in service once every week. When all the trucks are busy, he may do four in a night. We may lose or waste a little more lubricant than is absolutely necessary by following this plan, rather than lubricating on a mileage or operating-hour basis—but at least, we don't get into trouble.

When other fleet operators talk with us, they generally ask *"What kind of lubricants do you use?"* We have found no magic in any particular brand name, and we buy lubricants from many different sources on the basis of our own experience. We encourage the oil company representatives to study our problems and to make suggestions and give advice; and often we get excellent ideas from these well-trained men. One grease may lose its consistency too quickly; another may make the going distinctly easier. The lubrication man listens to the truck driver's comments and watches the condition of all old grease constantly.

As an example, we had a tough time in finding a wheel bearing grease that was exactly suited to our requirements. Today we have one that doesn't go fluid, and that never affects the brakes—but it took months of constant watchfulness and experiment, until we came to the conclusion that we had the perfect grease for this portion of the job.

Then there is the electrical man. His job is batteries, generators, lights and the electrical systems. All batteries are examined at least once a week, and kept in top condition. We had cable trouble for a while—cuts and chafes on the partially exposed cables leading to the battery-box on the running-board.

There may be a valuable shop hint in how we solved that difficulty. The hole in the side step panel was enlarged, and a smooth-surfaced ring was welded on. Then oversize cables were installed, and enclosed in heavy-duty rubber hose of 2-inch diameter. New tops were made for the battery-boxes, with integral hoods of heavy-gauge metal to protect the heavy-duty hose. Now there is an open gap of only about ½ inch between battery box hood and step panel, and cable trouble doesn't exist any more!

Of course we have motor men and chassis men who take care of those divisions of maintenance, and we have our own machine shop and blacksmithing department. Instead of using fuels or gasoline for cleaning operations, we have a steam cleaner which does the work more quickly, with less hazard and expense, using prepared compounds. We do all our own body painting as well. And our supply shelves hold extra parts for every possible potential need.

Nothing has yet happened to any of our trucks, where we haven't had the material on hand to repair or adjust them promptly. Besides the extra injectors mentioned above, we have such complete units for interchange as starters and generators—and we even have two complete spare engines!!

With all this constant and available service, we still do one thing more. Once a year, every truck gets a complete, careful "going over" in which every moving part is checked, examined and tested; and every "specialist" in the shop gives the truck his personal okay. We keep 'em rolling with "common sense" upkeep—and it costs us less with Diesels!

HEAVY-DUTY—Typical of the work done by Turecamo's fleet in short-haul work in the highly congested area of New York City. . . . After using 100% Diesel power for this work, over a four-year period, their story of satisfaction is interesting.

●

Trucks Put Circuses "On Road" Again

GLAMOROUS days of long ago, when the circus literally "took to the road" in summer, are coming back again, thanks to the truck and trailer.

Hard-headed cost-accounting and the greater flexibility of motorized transport are responsible for restoring the red-and-gilt cavalcades to the open road. One of the first outfits to be completely motorized estimated its monthly savings at $2,000.

With specially-built equipment, it is not unusual for today's motorized circus to cover an itinerary of 200 towns over a 10,000-mile route. This is equivalent to more than three trips across the United States. . . . Thanks to modern commercial vehicle design, circuses are again "taking to the road".

Of course, it's

AN *Autocar* TRUCK

with SKF's *for* PERFORMANCE

Model UB-106" wheelbase truck, built by The Autocar Company for Morton Salt Co

MORTON'S got something in the slogan, "When it rains, it pours". Not only is it true of *salt,* but of *bearing trouble* as well. When a bearing falls down on the job, one thing leads to another, and bills start pouring in. You'll get what we mean when ordinary bearings send your truck to the repair shop, and you pay overtime to mechanics to get the job back on the road earning money.

You don't have bearing trouble to contend with in this truck. Autocar avoided *that* when they installed SKF Bearings. Instead, you have bearings with *sturdiness* resulting from high-grade steel hardened throughout. You have *reliability* that comes from careful attention to the most minute details. You have a truck that's on the road working for you every minute.

From border to border and coast to coast, replacement is a simple matter because more than 6000 types and sizes of SKF Bearings are available at convenient sources of supply. 1583

SKF

BALL & ROLLER BEARINGS

SKF INDUSTRIES, INC., FRONT ST. & ERIE AVE., PHILA., PA.

A "FLEET OWNER" SURVEY ON

FLARES

IN WHICH 190 fleet operators, having an average of 162 vehicles each, give their recent experiences with Flares and Fusees, and stress their value from the standpoint of safety and utility.

By H. Clay Fischer, Editor

THE VALUE of flares from a safety standpoint, when stopping on the highway at night for *any* purpose, is self-evident. It needed no further expounding in our survey just made on the subject through the medium of our Question-of-the-Month department. The *utility* of flares, however, as a prolific source of light when changing tires, making emergency repairs, and even when loading and unloading trucks at night, was one of the "highlights" of this survey, some fleet men going far out of their way to stress this point. Public utilities, too, use flares for illumination when their trucks are working on line-construction jobs at night, and many other cases were pointed out where truck-type flares completely fill the bill for *other* jobs that perhaps were not cut out from them.

From the foregoing, you can see that the average fleet operator regards flares and fusees quite highly; he considers them *more* than simply something to carry on his trucks because the law requires it. As is our custom, we present the following brief conclusions, gained as a result of Question No. 107—Flares and Fusees, which appeared in our April issue:

(1) That although the flare laws do not seem to be strictly enforced in all states which compel their use, 80% of the fleets reporting state that they would continue to carry and use flares, even if not required by law. (2) That the oil-pot type of flare is used more extensively than other types, and is preferred over other types. (3) That most fleet operators obtain their flares from the automotive jobber. (4) That most flares are purchased on the basis of "dependability," with "convenience of carrying" second. (5) That fleet operators pay varying prices for different types of flares, ranging from 50c for a simple set of three stick-type fusees, to as high as $12.00 for an elaborate assortment of various types of flares, flags, etc., in compact carrying cases. (6) That flares are not without their disadvantages, such as leaky oil-pots, run-down batteries, etc., and the necessity for close and frequent inspection.

And here is a resumé of the questions asked, and their answers—the confidential information as to makes preferred, etc. being omitted, since these are reserved only for those fleet men who bothered to answer the questionnaire. The first question was sort of a census, asking *"What percent of your trucks (or buses) carry flares?"* Out of a total of 190 replies received, 166 fleets carry flares on all or some of their vehicles. The percentages of vehicles so equipped ranged from a low of 5% to a high of 100%.

It is interesting to note that 116 fleets are flare-equipped on from 60% to 100% of their vehicles, and of this number, 92 fleets are 100% equipped. These varying percentages may mean very little, but should serve to give an indication of the universal use of flares. Out of our 190 fleets replying, 24 carry no flares at all, which means an "active" participation in this survey of but 166 fleets. Our 24 non-flare-carrying friends are definitely interested in the subject,

(Please turn to page 28)

"THE BEST PLUG WE EVER USED"

Says **H. TESCH-NOITA**, Shop Superintendent

Scott-Mayer Commission Company
WHOLESALE
GROCERIES, FRUITS AND PRODUCE
806-08-10-12-14-16-18-20 E. MARKHAM ST.
Little Rock, Ark.

Mr. Roy Butts
The Electric Auto-Lite Company
Dallas, Texas

June 3, 1940

Dear Sir:

We have been using spark plugs since the single cylinder Cadillac days, in 1906, on passenger cars and since the solid tire chain drive Kelly-Springfield truck days, in 1915, on trucks. Naturally we have tried many types of spark plugs, including trick type of plugs. We have been using Auto-Lite Spark Plugs exclusively for the past 16 months. It's amazing that a simple change of spark plugs can make such a sensational difference in quicker starting, in faster pickup, in increased gas economy. Nothing but Auto-Lite Spark Plugs go in our trucks and passenger cars now. Know we have the best plug we ever used. We thank 556, Inc., your local distributor, for introducing this Spark Plug to us.

Yours very truly,
H. Tesch-Noita
SCOTT-MAYER COMMISSION COMPANY
H. Tesch Noita - Shop Superintendent

"NOTHING BUT AUTO-LITE SPARK PLUGS GO IN OUR TRUCKS NOW!..."

AUTO-LITE Spark Plugs deliver an amazing new *mystery spark* that steps up the efficiency of the entire ignition system. To harness this remarkable ignition spark, Auto-Lite's famous staff of engineers created a new-type electrode, made of a new Konium alloy in a new geometric design. They developed a new "Ziramic" insulator and other revolutionary features.

Try this new spark plug in your fleet. Discover for yourself how you can cut operating costs and, at the same time, step up performance. Put a set on test today.

THE ELECTRIC AUTO-LITE COMPANY
TOLEDO • *Merchandising Division* • **OHIO**

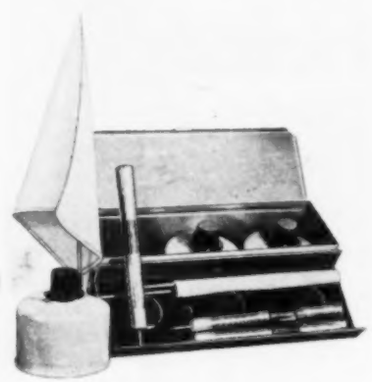
AUTO-LITE SPARK PLUGS

IGNITION ENGINEERED BY IGNITION ENGINEERS

however; that is why they sent back our questionnaire, asking for a copy of the results.

The next question asked "*Is the flare law strictly enforced in your state?*" The answers were "Yes"—100; "No"—30; "No Answer"—36. As with law-enforcement on direction-signals, as we pointed out last month, it is perhaps a matter of opinion as to what constitutes proper law-enforcement. Too, insufficient enforcement of the law in such a large province as a state, is sometimes due to local laxity; often because of a poor understanding or interpretation of the law. This question was included, *not* for statistical purposes; rather to note the extent of law-enforcement on flares, which seems to be quite thorough, to say the least. Besides, flares are among the equipment required by the Interstate Commerce Commission, and now that their jurisdiction has been extended over *private* interstate operators, this survey and article should prove quite timely.

The relative popularity of the various types of flares is revealed in the answers to the next question, which asked: "*Which type (or types) of flares do your vehicles carry?*" "Oil-Pot Flares" led the list, the number of mentions being 145. Next were the "Stick-Type Fusees" with 75 users. "Electric Flares" were mentioned 35 times; 30 fleets use the regular dry-battery types, while 5 are using the patented non-deteriorating type. One fleet reports using flares of the "reflector" type, which give no light in themselves, but reflect back the lights of oncoming traffic. The above census of usage is representative of the replies of 166 fleet operators, many of whom mentioned more than one type of flare.



FLARE KIT. . . . Typical of those which comply with the requirements of the Interstate Commerce Commission. . . . Note that it contains two different types of flares, and also flags for day use.

A census of flare *preference* is contained in the answers to the next question which asked: "*If more than one type of flare is used, which type is used mostly?*" Again leading the list was "Oil-Pot Flares" with 45 mentions. "Electric Flares" came next, with 11 mentions—8 for the regular dry-battery types, and 3 for the non-deteriorating type. "Stick-Type Fusees" were mentioned 8 times, while our reflector friend came in again with his "Reflector".

In this connection it is interesting to note that the I. C. C. (and also some states) require that more than one type of flare be carried on each vehicle, one of these being the stick-type fusee, the other either the oil-pot or electric types. Fleet operators report that they often use the stick-type fusee principally to get an *immediate* light, and the oil-pot or electric types are then lighted to provide *permanent* light for the duration of the stop. In a great number of cases, the stick-type fusees are being used only until the pot-flares or electric flares get going. And, since the electric flares are also capable of providing immediate light, it would seem that the stick-type fusees are more necessary in connection with the slower-starting oil-pot type of flare.

And here is where fleet operator preference comes in. We asked: "*Which type of flare do you prefer?*" Again leading the list was "Oil-Pot Flares" with 89 mentions. "Electric Flares" were mentioned 27 times—21 for the regular dry-battery types, and 6 for the non-deteriorating type. "Stick-Type Fusees" were preferred by 22 fleets, while our reflector friend again repeated with his "Reflector"—we admire him for his stick-to-it-ive-ness.

Of course, there were many reasons advanced for this preference in flares, and some of the reasons were contradictory. Just in case you'd like to know what they are, we are tabulating them here:

Oil-Pot Flares—"More Dependable"—27; "Cheaper to Maintain"—20; "Longer Burning"—16; "Low First-Cost"—10; "More Economical"—6; "Easy to Get Oil"—6; "More Noticeable"—5; "Easy to Check"—5; "Always Ready for Use"—3; "No Batteries Needed"—1; "Answers Various Purposes"—1.

Stick-Type Fusees—"Quicker Starting"—9; "Give Brighter Light"—3; "No Mess or Odor"—3; "Less Storage Space"—2; "More Convenient"—2; "Low First-Cost"—1; "No Maintenance Needed"—1; "No Deterioration"—1.

Electric Flares—"Clean; No Mess or Smell"—11; "Less Fire Hazard"—5; "Easier to Maintain"—4; "Instant Lighting"—4; "Will Not Blow Out"—1; "No Matches Needed"—1; "Last Indefinitely"—1; "Easy to Test"—1; "More Dependable"—1.

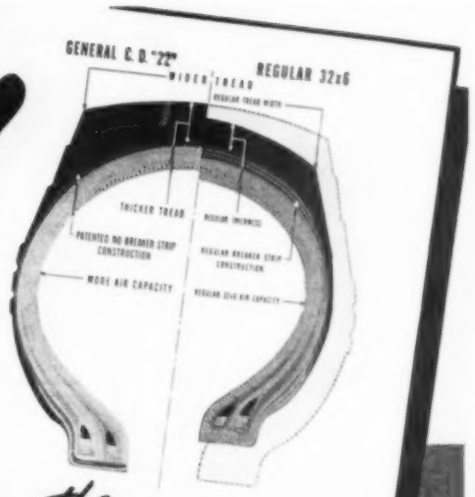
Our next question asked, "*Which make of flare do you prefer?*", but we are not going to give you the answers here. Sorry, but this is one of those confidential things, reserved only for those who participated in our survey. A total of 22 makes of flares (various types) was mentioned, some makes leading the list in popularity, of course.

The next question provided great variation in answers. It asked, "*How many times per month (for entire fleet) do you burn flares?*" . . . The answers ranged from "Never", "Very Seldom", etc., right on, numerically, up to 60 times per month per fleet, which was the high figure. The popular figures were from 1 to 5 times per month. . . . Many fleet men seemed hesitant to admit that they do have road failures and need to use their flares. On the other hand, other fleet men reported that they light flares at many of their loading and unloading stops, and that the number of flares thus burned is too great and that accurate records are, consequently, not available.

Conclusion Number 1 (see third paragraph of this article) was obtained from the answers to the follow-

(*Please turn to page* 46)

GENERAL CDs *Stand Up!*



See the
EXTRA TREAD THICKNESS
EXTRA TREAD WIDTH
LARGER AIR CAPACITY

New Type Tire Ends Delays on America's Fastest, Longest runs

So regularly—that it has almost become a foregone conclusion—a trial proves General CDs to be the answer to ending tire failure delays and maintaining schedules on "tire killing" runs. Typical is the Midwest Freight Forwarding Co., Chicago.

"Not a blowout since we started using this tire a year ago," says E. A. Bergers, General Manager. "We consider this remarkable performance in view of the fact that our operation is between Chicago and Philadelphia, New York City, various Connecticut points and Boston—shortest haul about 1,000 miles and average load 20,000 pounds. General CDs have been a great asset to us in maintaining schedules in view of our not having to lose time through tire failures."

Ask your General Tire dealer to show you "case histories" of local operators using CDs. Learn why the entirely new principle of construction will give you far greater mileage, amazing puncture resistance, 50% to 100% greater return on the difference you pay. Let him fit a set of CDs to a truck on *your* toughest run. Then *you* check the results for yourself.

THE GENERAL TIRE & RUBBER COMPANY • AKRON, OHIO

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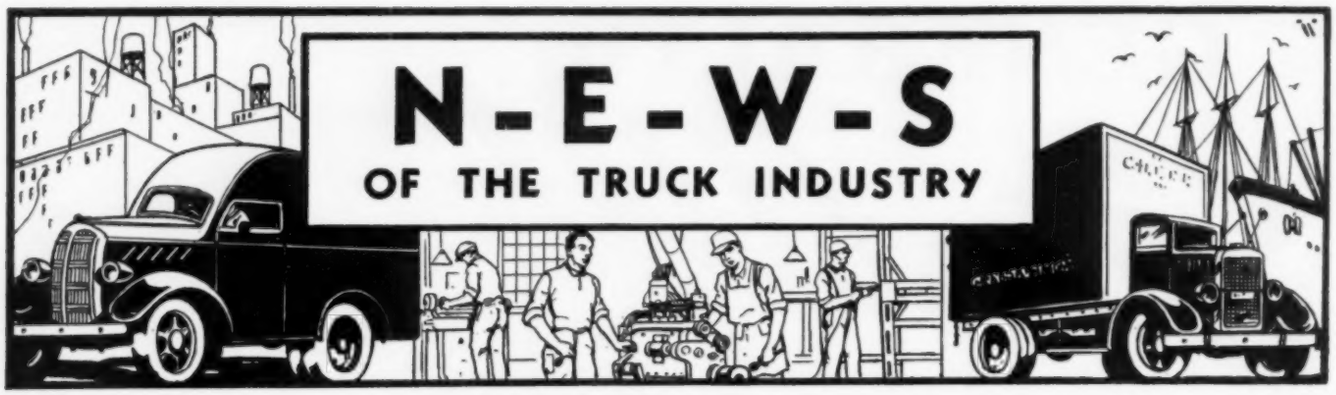
The New GENERAL C·D·

AVAILABLE FOR TRUCKS FROM ½ TON TO 10 TONS CAPACITY



I.C.C. Postpones Private Carrier Date

PRIVATE carriers have until October 1 to comply with the I.C.C. Safety Regulations, the deadline for which was previously set at August 1. . . . The order reads: *"In the matter of need for establishing reasonable requirements to promote safety of operation of motor vehicles used in transporting property by private carriers, and upon consideration of the petitions for postponement of the effective date of the order of May 1, 1940, it is ordered that the effective date of said order be postponed from August 1 to October 1, 1940."*

●

Mack Brings Out New Heavy-Duty Truck

AS THIS issue went to press, Mack Trucks, Inc., announced a brand-new, heavy-duty truck, designated as Model LM. . . . The job is said to be new from bumper to tail-light and features the Mack Thermodyne gasoline engine, with the Mack-Lanova Diesel engine optional. . . . The new model is offered in two standard wheelbases —176 and 194 inches. Special wheelbases of 212 and 230 inches are also available. . . . Complete details and photos will appear in our next issue. Watch for the story!

●

New GMC Line of 34 Six-Wheelers

OFFERING improved traction for oil-field work, logging and other similarly severe operations, a new line of thirty-four GMC six-wheel models in both trailing axle and dual driving axle types was announced last month by J. P. Little, vice-president directing sales of General Motors Truck and Coach Division, Pontiac, Mich. . . . Sixteen new tractors—engineered to meet the demands of tractor-trailer operators and ranging in gross combination weight from 32,000 to 50,000 pounds—also were announced.

●

Marmon-Herrington Expanding Again

THE CAPACITY of the Marmon-Herrington plant, located on a 16-acre tract in Indianapolis, Ind., is being doubled by a new building program. . . . Enlarged manufacturing facilities are required, according to company officials, to meet government requirements for all-wheel-drive trucks, and other special equipment, as well as growing demands for the company's products for general private commercial use.

Chevrolet Sets New High in June

COMBINED new and used car and truck sales by Chevrolet dealers set a new high during the month of June. . . . Records show that the selling organization delivered an average of 12,696 units each of the 25 working days in the month, making a total of 317,405 units. . . . New unit sales for the month totalled 102,615 passenger-cars and trucks, representing a gain of 35.6 per cent over June, 1939.

●

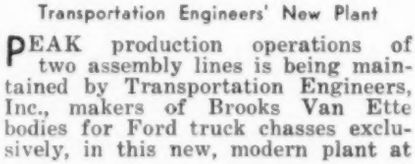
Freers Joins M-H Engineering Staff

THE NEWEST addition to the engineering staff of the Marmon-Herrington Company, Indianapolis, Ind., is George H. Freers. . . . He is widely known in automotive and engineering circles and has an extensive background that will be valuable in the company's increased production activities.

●

Transportation Engineers' New Plant

PEAK production operations of two assembly lines is being maintained by Transportation Engineers, Inc., makers of Brooks Van Ette bodies for Ford truck chasses exclusively, in this new, modern plant at



14307 Third Ave., Detroit, Mich., near the Ford Highland Park plant. . . . The new factory has much greater floor-space than the old one. Added manufacturing facilities enable Transportation Engineers to meet increasing orders from bakeries, laundries, dry cleaners, department stores, florists and others whose delivery loads are light and bulky.

●

Fruehauf Opens Nashville Branch

A NEW factory branch is announced by the Fruehauf Trailer Company, located at Nashville, Tenn. . . . It carries a complete stock of Fruehauf trailers and parts, and is in charge of H. O. Folbert, who was recently transferred from Fruehauf's Dayton, Ohio branch. . . . Announcement is also made that C. R. Robertson, formerly Fruehauf branch manager at New Orleans, has been made branch manager at Houston, Tex.

Trailer Makers Form Association

THE TRUCK Trailer Manufacturers Association was formed recently, with headquarters at the Merchandise Mart, Chicago, Ill. . . . M. J. Neeley of the Hobbs Manufacturing Co., Fort Worth, Texas, is president. . . . Vice-president is P. H. Bartlett of the Bartlett Trailer Company, Chicago. . . . Chairman of the board is Harvey C. Fruehauf, president of the Fruehauf Trailer Company, Detroit. . . . A membership campaign is now under way to secure the support of all trailer manufacturers and supply companies.

●

Lippard Elected Federal Truck President

T. R. LIPPARD was elected president and general manager, as well as a director of the Federal Motor Truck Company at a meeting of the Board, held recently. He succeeds R. W. Ruddon, resigned. . . . Mr. Lippard joined the Federal organization last fall as vice-president, in charge of sales and engineering. . . . He has been identified with the motor truck industry for more than 28 years, and for a number of years was president of the Stewart Motor Corporation of Buffalo, N. Y. . . . Our best to you, Mr. Lippard!

●

Corsart Named Dodge Truck Sales Manager

DODGE Truck Division of Chrysler Motors announces the appointment of Lee D. Corsart as sales manager. . . . He fills the vacancy created by the resignation, recently, of Tom W. Moss, formerly director of Dodge truck sales. . . . Mr. Corsart brings to the Dodge truck organization seasoned and well-rounded executive experience and ability in every phase of automotive merchandising. . . . His first connection was with Dodge in 1926. Since then he has been with Dodge and Plymouth continuously. . . . Our best to you, Mr. Corsart!

●

Safety Training at Knoxville This Month

NINE specialized courses in the several fields of traffic accident prevention will be offered at the National Institute for Traffic Safety Training to be held at the University of Tennessee, Knoxville, August 12 to 24. . . . All of the courses are designed to supplement the effective training work now being done by motor vehicle administrators, police, engineers and others.

FLEET OWNERS Prefer BOLSER FLARES TWO TO ONE

★ Bolser Flares meet new I.C.C. rules for private truck regulations in effect October 1, 1940. ★

Genuine Bolser Model!

Meets All I.C.C. Rules! Heavy Duty * 20 Gauge Steel * Leak-Proof Seams. Patented Nested Feature. * Time study proves easiest to set out and pick up. Special Design Tear-Drop Burner. Outstanding Performance. New Type, Rugged, 16 Gauge Steel Bracket. A Leak-Proof, Rattle-Proof, Wear-Proof Unit. GENUINE BOLSER THREE UNIT FLARE . . . ONLY $4.95!

National independent survey among 190 FLEET OPERATORS —IN 35 STATES and representing 27 different INDUSTRIES —AMONG MEN WHO KNOW FLARES BEST—shows BOLSER FLARES MORE than TWICE AS POPULAR as the "runner up" . . . and MORE THAN AN 8 to 1 FAVORITE over an average of the next 20 flare and fusee brands.

IF IT *Nests* IT'S A *Bolser*

The trucking industry's choice is Bolser Flares, for experience proves this complete line is built and engineered to give positive satisfaction. Bolser Flares are unconditionally guaranteed—they comply with all motor carrier regulations, and offer the greatest value for your Flare dollar. A complete price range—three units sets from only $2.95 to $4.95!

SEE YOUR JOBBER—AND BE SURE TO INSIST ON BOLSER!

If your jobber cannot supply you, write for name of nearest Bolser Jobber.

ECONOMY MODEL!

Meets All I.C.C. Rules! A top quality flare . . . 20 Gauge Steel. Bolser Patented Nesting Features . . . Tear-Drop Burner. Heavy Band Steel Bracket. Locks into Leak-Proof, Rattle-Proof, Wear-Proof Unit. ECONOMY THREE UNIT FLARE . . . ONLY $3.95!

FAIRWAY MODEL!

Meets All I.C.C. RULES! A popular flare. Low priced. 22 Gauge Steel. Leak-Proof Rolled Seams. Heavy Steel Band Bracket. Tear-Drop Burner. FAIRWAY THREE UNIT FLARE . . . ONLY $2.95!

BOLSER SAFETY EQUIPMENT

Truck Reflectors:

Approved . . . 200% in excess of SAE requirements. Bonderized. Rust-Resistant Frame. Reflector set in asphalt. Standard prices.

Direction Signals:

Approved! Bonderized! Rust-Resistant! Genuine Mazda Bulbs. Illuminated Tel-Tale Switch. Sets $6.95 up!

Truck Mirrors—Ful-Vue!

Offset Mirror Head "Floats in Rubber"! Bonderized rust-resistant. Extending and Non-extending Models. Body or Hinge mounting. Adjustable. From $1.95 to $3.75! Replacement heads for Ford and Chevrolet.

NESTED FUSEES!

The first—and only—IMPROVED fusee. Burning time five minutes—and by nesting up to any desired time. SAVES two-thirds of usual fusee cost. Ever-ready kit supply.

MARKER AND CLEARANCE LIGHTS!

A full line of Marker and Clearance Lights . . . Bonderized, Rust-Resistant . . . Streamline Aluminum Finish. Heavy Steel Frames. Form-fitting Genuine Mazda Bulbs. Finest quality Glass. Self-tapping Cadmium-plated screws packed with lights for installing. Standard prices.

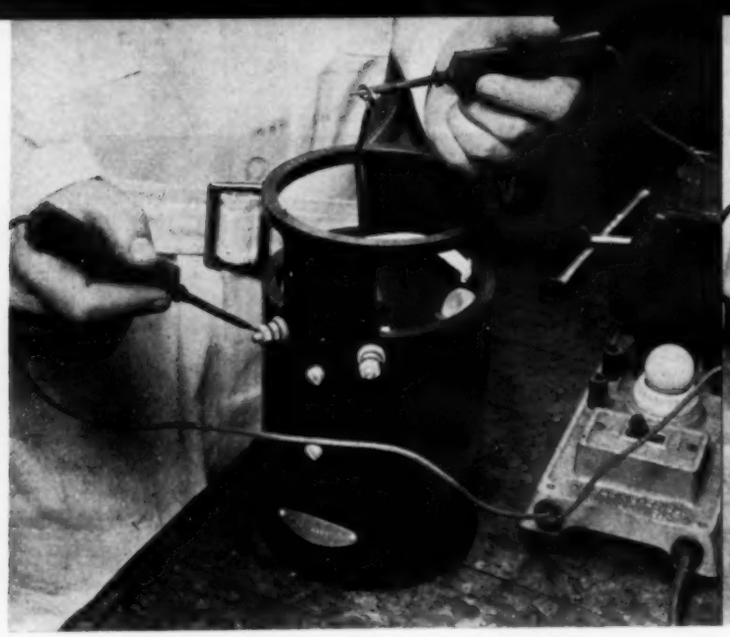
TRUCK FLAGS

Wood or Metal Shafts. High-quality construction. Individual Flags and Sets in variety of price ranges.

Bolser Check-in-Box Flares!

Three Fairway Flares in heavy steel box. Complete with three Bolser Fusees and two I.C.C. Flags in separate tray. CHECK-IN-BOX FLARES COMPLETE SET ONLY $4.95!

The BOLSER CORPORATION, CEDAR FALLS IOWA



CHECKING generator field for open circuit.

CHECKING the generator field for grounds.

HOW to SERVICE

ANOTHER factory-sponsored service article on automotive electrical equipment, especially prepared for FLEET OWNER by people who know.... The next article in this series will cover the subject of Voltage Regulation. . . . Watch for it!

THERE are two angles of generator service, and to get the most economical operation out of his generators, the fleet operator must work *both* angles.

The first angle—the one included in most regular maintenance checks—takes in periodic lubrication, inspection of brushes, connections, bearings and commutator in the generator, as well as external wiring. Although it would be hard to name the exact figure, it is safe to say that a good percentage of generator failures result from neglect—from not noticing some condition in a generator which should have been corrected before it became so bad that failure resulted.

The second angle of generator service takes in the locating of trouble in a defective generator, so that the proper corrective steps may be taken. With the right approach, it is less difficult to determine whether it is the fields, armature, or something else which is causing the trouble, and it won't be necessary to fumble with the test leads for half an hour and then finally end up by tearing the generator down, after all. Here are some factory-approved recommendations on normal generator maintenance:

Lubrication—Due to the large variety of generators in use in various fleets throughout the country, and the many conditions under which they may operate, it is difficult to make any generalizations as to the mileages at which generators should be inspected and lubricated. On smaller type units, bearings with hinge-cap oilers should be supplied with 8 to 10 drops of light engine oil every 1,000 miles, and bearings with grease-cups should have the grease-cups turned down one turn every 1,000 miles. Grease-cups should be filled with medium cup grease when necessary.

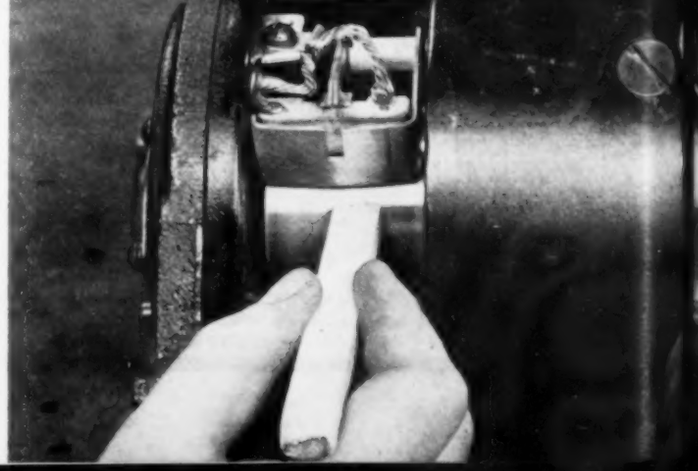
On larger units, where the armature is supported on ball-bearings and there are larger lubricant reservoirs, it is not necessary to lubricate quite so often, but here the judgment of the fleet operator must determine the mileage intervals between lubrication. In no event should the intervals be more than 5,000 miles apart. Units provided with oilers should have the oil-wells filled to the level of the oil-holes with light grade engine oil (S.A.E. 30).

Units with grease-cups should have the cups turned down one full turn and the grease-cups filled when necessary with a good grade of high-melting-point, ball-bearing grease of the following specifications: (a) 84-86% refined mineral oil and 14-16% sodium soap. (b) Drip point not less than 400° F. (c) 175° F. for 200 hours without separation—shall not solidify above 0° F.

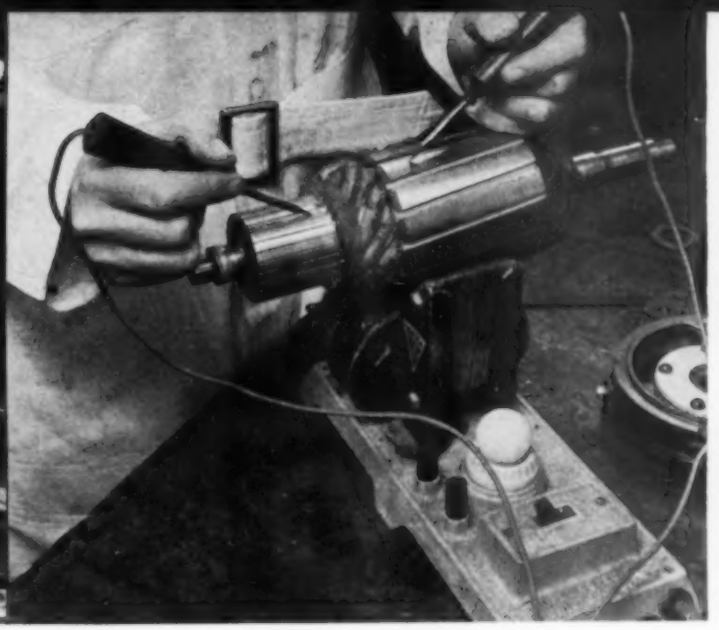
Relief holes in grease reservoirs and passages, where present, must be kept open, so that lubricant is not forced out onto the commutator. Oil or grease on the commutator will cause gumming, which reduces generator output. Be sure that the supply of lubricant in the shop is kept in closed containers, to prevent dust or dirt from getting into it.

Inspection—The cover band should be removed and the commutator and brushes inspected at regular in-

SEATING new brushes, using the special brush-seating stone.



CHECKING the armature on growler for shorts.



CHECKING the armature on growler for grounds.

the GENERATOR

By Wm. H. Crouse,

Service Engineer,

Delco-Remy Div. of General Motors, Anderson, Ind.

tervals. Here again the judgment of the fleet operator will determine the mileage intervals between inspections. Consistently high generator speeds, dusty operating conditions, operation that takes full output from the generator, or excessive heat, all are conditions which will make it advisable to check the generator more frequently. The smaller units will require inspection at something in the neighborhood of 5,000-mile intervals, while the larger units may be permitted to operate for greater mileages between checks.

If the commutator is dirty, it may be cleaned with a strip of No. 00 sandpaper held against it by a block of wood, while the generator is operated. *Never use emery cloth to clean the commutator!* Emery may embed in the commutator or the brushes and cause rapid brush and commutator wear. Blow out all dust after sanding the commutator. If the commutator is rough, out-of-round, or has high-mica, the generator should be removed from the engine and disassembled, so that the armature can be put in a lathe and the commutator turned down. Remove only sufficient material to true up the commutator, eliminate roughness and high-mica. Undercut the mica. It is of extreme importance that the commutator be true with respect to the shaft bearings, because even a slight out-of-round condition may double the brush wear. Checking the commutator with a dial indicator will readily disclose this condition.

Brush-spring tension must be within the specified limits. Excessive spring tension causes rapid brush and commutator wear. Low tension results in excessive arcing at the brushes and commutator and a reduced output. Make sure that the pigtail lead connections at the brushes are tight.

Worn brushes should be replaced if there is any possibility of their wearing out before the next inspection period. New brushes should be seated. The handiest way of seating new brushes is through the use of a brush seating or bedding stone. After the new brushes have been installed, the generator should be operated at a medium speed and the stone held firmly against the commutator, and moved back and forth along the area contacted by the brushes. The stone is of soft material which disintegrates, carries under the brushes and seats them in a second or two. Blow out all dust. *Never use emery cloth to seat brushes!*

The tension of the generator drive-belt must not be excessive, because this would cause rapid bearing wear. Nor must it be too loose, because this will cause belt slippage.

Disassembly Check—At intervals of 25,000 to 50,000 miles (the mileage depending on the type of generator and the operation it is in) the generator should be removed from the engine and disassembled for a complete cleaning. This is especially important on ventilated generators, since the air passages may

(*Please turn to page* 51)

NEVER use emery cloth to seat brushes or clean the commutator.

SOLVING THE OPERATION-MAINTENANCE PROBLEMS OF A

COUNTY FLEET

By R. A. Smith,
Superintendent,
Riverside County Garage,
Riverside, Calif.

MANY special problems arise in the operation and maintenance of a county fleet, which is generally made up of trucks, passenger-cars and various units of mobile road-machinery. Your Editor has asked us to outline some of the problems encountered by the Riverside (Calif.) County fleet, together with the steps taken to solve them, all of which we are glad to do, for the benefit of other county, state and municipal fleet maintenance men.

Riverside County stretches over long distances. For example, it is 188 miles from Riverside, the county seat, at the western edge of the county, to Blythe, on the eastern edge. Also, it is about 50 miles, by highway, from the northern edge to the southern edge of the county. County cars and trucks, therefore, may operate over 1,656 miles of roads, and still stay inside the 7,223 square miles of county territory.

Inasmuch as the population and activities of the county tend to cluster in and around Riverside, the county garage is located there, in a large brick, concrete and steel reinforced building, one block from the court-house. This makes it convenient for a majority of the county employees who operate county cars, and are served by the garage. In particular, it is advantageous to the Sheriff, as his department is in the court-hourse, and through close proximity to the garage, he has no trouble in keeping his cars and equipment tuned up to the highest efficiency. This is of especial importance because the Sheriff must watch over so much territory, and due to the fact that one of the main highways of entry into the state traverses the county lengthwise, while another comes in from the southeast, it is highly important that patrol cars and other equipment, including radio cars, be kept at peak performance.

In addition to the passenger-cars and special equipment, such as ambulances, that are handled by the garage, there is also the big job of taking care of the requirements of the county's Road Department. While a good deal of the road equipment operates and remains out on jobs, between 10 and 20 trucks and other pieces of equipment are housed every night at the garage, or kept in the yard. These receive day-by-day services such as the supplying of gasoline, oil and lubrication. One service car operates out of the garage for the purpose of taking care of small running repairs, lubrication, etc., on road equipment in use at the various jobs going on in the county.

The county garage is 144 feet long and 64 feet wide, and is equipped to take care of the repairs and service requirements of all county cars and equipment. There are eight yards at other locations, also under the supervision of the Road Department, each of which is equipped with blacksmith and other facilities, for taking care of routine work. Each of these yards checks in with the county garage on repairs, and furnishes necessary information for cost-accounting. The yard which adjoins the county garage at Riverside is 144 feet long and 99 feet wide, and also has certain

(*Please turn to page* 45)

THE FLEET:

36 Passenger Cars
116 Trucks
13 Tractors
4 Road Rollers
2 Power Graders
3 Power Shovels

Also, an assortment of miscellaneous small equipment, some of which is power-driven.

So Young and so Tender

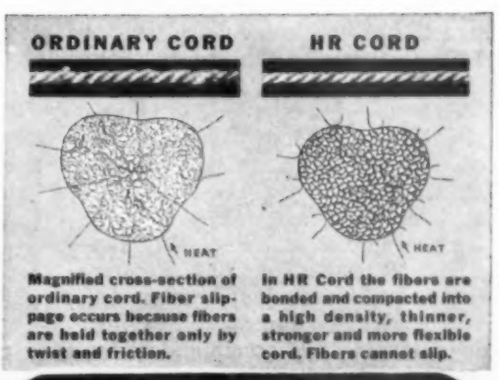
YES it *is* a tragedy when a young truck tire gives up the ghost.

A truck tire can't be a sissy. Today it's got to have a carcass that will take the pounding that comes from heavy loads at modern day speeds.

Blow-outs, tread wear, sidewall failures are most apt to happen when tires get overheated. Ordinary cord is both the cause and victim of the deadly, terrific temperatures generated in heavy duty truck tires. The fibers in ordinary cord are held together only by twist and friction and under the strain and stress of constant flexing, the fibers slip, weakening the cord. Generation of heat is accelerated...the tire blows out.

Bibb HR Cord is the only cord in which the fibers are bonded and cannot slip. Bibb HR Cord is the only cord which utilizes the steel-like strength and infinite flexibility of the cotton fiber. Comparative tests after 20,000 miles of heavy duty service show that Bibb HR Cord has 50% more residual strength than ordinary cord.

Tires built with Bibb HR Cord not only stand the gaff — run cooler, last longer, but after the original tread is worn down, the carcass remains in perfect condition for recapping. Mail the coupon today.



Magnified cross-section of ordinary cord. Fiber slippage occurs because fibers are held together only by twist and friction.

In HR Cord the fibers are bonded and compacted into a high density, thinner, stronger and more flexible cord. Fibers cannot slip.

Insist upon Genuine

HR CORD

TRADE MARK REG. U.S.PATENT NO. 2103218

F-106

Bibb Manufacturing Company
Macon, Georgia

Gentlemen: Where can I buy tires made with Bibb HR CORD? [ ]

I am interested also in V belts. [ ]

*Name*_____

*Address*_____

BIBB
The First Name in
TEXTILES

BIBB MANUFACTURING COMPANY, MACON, GEORGIA

LOADED and ready to roll out on deliveries throughout New York, this fleet is but part of the 208 new trucks recently ordered.

RUPPERT REPLACES 200-TRUCK FLEET WITH EF, EQ MACKS

WHAT is believed to be the largest transaction in connection with motorized transportation ever concluded in the brewery industry, was announced last month by George E. Ruppert, president of the Jacob Ruppert Brewery, New York, N. Y.

Mr. Ruppert revealed that his company had recently signed a contract involving the expansion of its large fleet of delivery trucks, to include replacement of many of the older units, and that approximately 200 Mack trucks, equipped with specially-designed, insulated closed van bodies, were ordered for the transportation of Ruppert *"Old Knickerbocker"* beer and Ruppert ale. The entire transaction will involve more than a half-million dollars, we are told, the exact number of new trucks ordered being 208.

Of the new trucks, 163 are the Mack Model EF, equipped to transport loads of 40 half-barrels. The remaining 45 units are Mack Model EQ, with capacity for loads of 70 half-barrels. Insulation is used in these special custom-built van bodies, to protect against summer heat and to insure cool beer on delivery, plus freshness. Loading and unloading are accomplished by means of doors at the sides and rear.

The color scheme on these new trucks is the modern one recently adopted by Ruppert—cream, maroon and gold, as shown in the accompanying illustrations. This style is now being featured in all Ruppert advertising material, and on all labels. The cabs are upholstered in tan leather, with attractive, modern instrument panels.

Initial delivery of 75 of the smaller jobs was made upon writing the order, the units being placed into immediate service. The balance of the order was being filled as rapidly as possible, and, at the time of our going to press we were informed that over 100 units in all were delivered by that date.

Rupperts have also opened a new and larger fleet garage and maintenance depot at 231 East 93rd Street, across the street from the brewery. More than 50 mechanics and maintenance men are employed there, we understand. When the new fleet is delivered, more than 300 drivers will be employed, including practically all of the present Ruppert staff composed of men who have been with the company for as long as thirty years.

Deliveries will be made by this fleet in the entire metropolitan area of New York, including parts of New Jersey and Long Island. With each truck covering an average of 30 miles per day (with a great many stops), the entire new fleet will cover an estimated 1,878,000 miles per year. Each truck will undergo a most thorough check-up at 10,000-mile intervals, with the usual preventive maintenance routine carried out at every 1,000 miles or every thirty days.

A FLEET of 21 new units like this one was ordered by Ruppert's late last year.

163 units of the new order are like this one.... The balance are larger, similar jobs.

In addition to the standard Mack equipment on the new trucks, there are to be found many items of special equipment.

The new trucks are most attractively painted, making them real advertisements for Ruppert as they pass through the crowded city streets, continually on the go, making deliveries to restaurants, bars, stores and hundreds of other Ruppert outlets throughout the city. They start from the main Ruppert plant in Manhattan, and branch out in all directions.

Also illustrated within this article is one of 21 Model EF Macks purchased last Fall, equipped with all-steel special brewer's open-top body, with 40-keg capacity. To

(*Please turn to page* 53)

There's a Kelly Tire for Every Job!

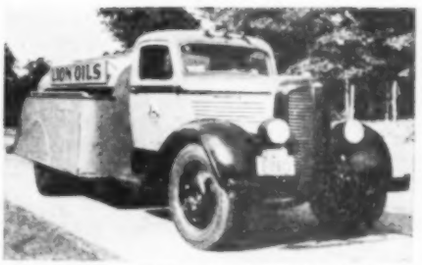
ON LONG HAULS OR SHORT— SMOOTH GOING OR ROUGH

Kellys are Tough

KELLY TRUCK TIRES are Tough. That's why they're selected for unusual jobs on huge public projects, such as Boulder Dam, Bonneville, Fort Peck, Shasta. In the excavation and leveling for the New York World's Fair, sturdy Kelly tires played an important part.

On fast, intercity transports, you'll frequently find Kellys set new tops in uninterrupted tire mileage. Kellys are Tough because of the dense, slow-wearing *Armorubber* Tread—and the "fatigue-proof" body construction, with its strong, low-stretch cord and graduated cushion compounding.

Your local Kelly dealer will gladly recommend a "job designed" tire to reduce your mileage costs.



Kellys "Pay-Off" on Lighter Hauls, Too

The Kelly Heavy Duty
The Kelly Registered

KELLY

Springfield

TIRES

DEPENDABLE FOR 46 YEARS

New, More Powerful Diamond-T 1½-Tonner

A NEW 1½-ton Model 306 with a bigger engine more power and more torque is announced by the Diamond-T Motor Car Company, Chicago, Ill. Gross rating is 11,000 lbs.

Bore and stroke of the new model 306 engine are 3-7/16 inches by 4½ inches with an A.M.A. rating of 28.36 horsepower. It develops a maximum torque of 170 lbs. ft. and 73 actual horsepower at 3,000 r.p.m. The result of this increased power, according to

Diamond-T engineers is 30% faster acceleration and an ability to climb 12% steeper grades in high gear. Higher average road speeds are also promised.

The new model has the full Diamond-T "super-service" engine specifications. This six-cylinder engine of L-head design has a block and upper crankcase cast in one piece of heat-treated alloy iron. Zollner cam-ground pistons of aluminum alloy have four rings each. The 2½-inch counterbalanced crankshaft is carried in seven main bearings with total bearing area of 79 square inches. All bearings are of the precision type, and crankshaft journals are electrically surface-hardened. Other features include full-depth cooling, side-mounted pump and cushion-cradle mounting.

In addition to the standard spiral-bevel-drive, full floating rear axle with optional ratios of 5.1 to 1, 5.57 to 1 and 6.3 to 1, an oversize single-speed axle of greater capacity and also a dual-range axle are available as optional equipment. With either of these latter special axles, the truck model designation is 306H and the gross capacity rating is 12,000 lbs.

The special dual-range axle equipment is available in two combinations of ratios; 5.83 to 1 with 8.1 to 1 for most types of service, and 5.14 to 1 with 7.15 to 1 for light loads and favorable road conditions.

Braking system is the latest Lockheed, internal-expanding, hydraulic type, with 14" x 2" front and 15¼" x 2¼" rear alloy iron drums. Steering is the cam-and-lever type, with roller-bearing cam-follower. Transmission is of the heavy-duty type, mounted in unit with the engine, with four speeds forward and one reverse. All spring shackles are bushed with live rubber under compression, requiring no lubrication for the life of the truck.

Frames are individually designed for each wheelbase with ¼-inch stock and six cross-members. This new Diamond-T Model 306 is built in wheelbases of 127 inches standard for 8 ft. bodies; 140 inches and 150 inches optional at extra cost for 10 ft. 6 in. and 12 ft. bodies. . . . For more details address W. S. Baldwin, c/o Diamond-T Motor Car Company, Chicago, Ill., mentioning FLEET OWNER, please.

Automotive Taxes Amount to 30 Per Cent

GASOLINE taxes and motor vehicle license fees represented 30.4 per cent of all state tax revenue for 1939, says the Department of Commerce.

State tax collections totalled $3,832,000,000 in the fiscal year ended in 1939, according to reports received from 135 tax-collecting agencies in the 48 states. . . . Of this tremendous sum, gasoline taxes (20.9%) and motor vehicle license fees (9.5%) brought in $1,163,-200,000, nearly one-third of the total tax money collected by all the states in the Union.

●

GMC Offers 6-Cylinder Diesel Truck

A NEW truck, powered with the General Motors six-cylinder, 165-horsepower, two-cycle Diesel engine, is GMC's answer to the need for a GMC Diesel unit to handle the heaviest hauling requirements of any operator.

This new model—just announced—now rounds out the complete line of GMC Diesel-powered units, making available to truckmen a full line of models equipped with either the three-cylinder, four-cylinder or six-cylinder General Motors Diesel engines, and meeting virtually all requirements in the medium, heavy-duty and super-heavy-duty field.

Inherent advantages pointed out by General Motors Diesel engineers, include reduced engine weight, great power output per cubic inch displacement, smooth operation and the GMC fuel-injection system. In addition is the design of the transmission, which is said to provide ideal gear spacing for heavy hauling work. It has a low speed ratio of 5.07 to 1, with a spacing of only 2 between first and second, and 1¼ between second and third, with 1¾ between third and direct—said to be an ideal spacing for tractor-trailer service. This transmission is of the Syncro-Mesh type, which assures ease of shifting at any truck speed and eliminates the need for double-clutching. The constant-mesh helical gears with sliding gear collars facilitate shifting and are silent in operation.

The GMC auxiliary transmission—available as an option—also features constant-mesh herringbone underdrive and overdrive gears. Gear changes are made easily through the use of sliding gear collars and quietness of operation is promised, with the use of herringbone gears.

Other features of General Motors Diesel construction include the GM piston design, needle-bearing wrist-pin bearings, GM balancing system, and other latest developments which are incorporated in the design of the new General Motors six-cylinder Diesel truck engine. . . . For complete specifications address H. T. DeHart, c/o General Motors Truck Division, Pontiac, Mich., mentioning FLEET OWNER, please.

3 WAYS TO GET FULL VALUE FROM TODAY'S IMPROVED GASOLINE

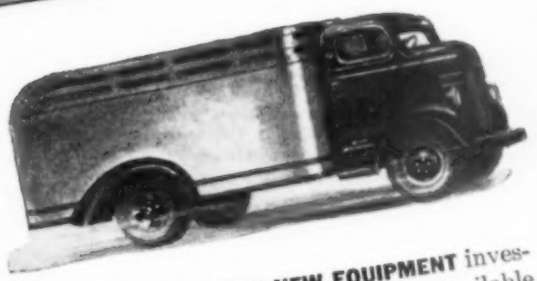
1. IN OLDER VEHICLES install high compression pistons or cylinder heads (as supplied by the manufacturer) when engines are overhauled or rebuilt.

ANTI-KNOCK VALUES have been climbing steadily for ten years. There is every indication that this trend will continue. In fact, within the past few months anti-knock quality has suddenly leaped to new heights.

Each successive improvement offers a still greater opportunity to increase payload carrying capacities, reduce running times and improve fuel economy.

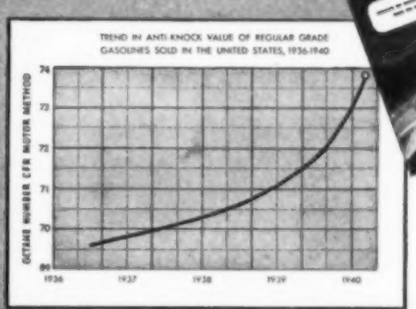
A two-year series of road tests and practical operation have shown three ways, indicated on this page, in which commercial operators can profit by taking advantage of the trend toward higher anti-knock values.

2. IN PRESENT VEHICLES which have high compression engines, advance the spark as far toward maximum efficiency as the improved gasoline will permit.



3. IN PURCHASING NEW EQUIPMENT investigate the compression ratios available and specify a ratio high enough to take full advantage of modern gasoline.

ANTI-KNOCK VALUES ARE UP!



MAIL COUPON FOR TEST RESULTS BOOKLET

Ethyl Gasoline Corporation,
Chrysler Building,
New York, N. Y.

Please send me a copy of "Results of Recent Road and Laboratory Tests on Commercial Engines" which gives complete data on tests recently completed at San Bernardino, Calif.

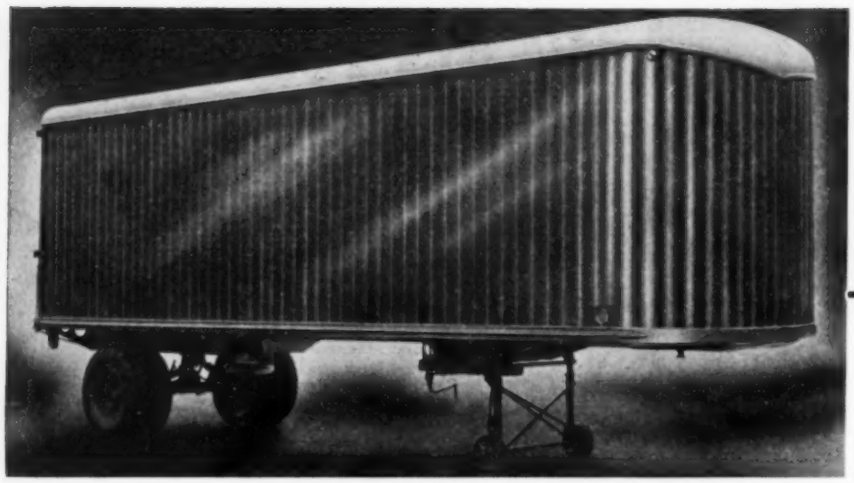
Name.....

Address.....

City.....

FO-8

ETHYL GASOLINE CORPORATION, *Chrysler Building, New York, N. Y., manufacturer of anti-knock fluids used by oil companies to improve gasoline.*



NEW unit has no chassis.... It consists of 6 separate members—front, rear, roof, floor and sides—rigidly assembled.... Each member is a unit in itself, capable of carrying one or more types of load.

NEW "OUTSIDE-FRAME" SEMI-TRAILER ANNOUNCED BY

TRAILMOBILE

TRAILER Company of America, Cincinnati, Ohio, announces a brand-new design in semi-trailers, consisting of a light-weight, "chassis-less" unit, illustrated above. They prefer to call it an "Outside-Frame" trailer, rather than "frameless", due to the fact that the body-sides, roof, bottom and front-end are fabricated in such a manner that they constitute, in effect, both a body *and* a frame. However, there is no regular chassis frame, the fifth-wheel plate and axle being applied directly to the structural members comprising the "bottom" of the body.

Trailmobile engineers claim that this type of construction provides a transport unit of the greatest load-bearing capacity with the lightest weight, without the necessity of using relatively expensive alloy metals. The design embodies a transition of the narrow frame formerly used underneath trailers, to the *outside* of the body, and incorporates it as a deep, load-bearing "beam" to support the payload.

In reality, they have taken the former narrow center underframe that carried the entire load, and have spread it out to the entire width of the body, increasing the depth of the "beam" to make it an integral part of the trailer body. Airplane-type construction has been followed, resulting in a series of formed columns (or corrugations) which lend strength and permit the lightest possible weight (using commercial ferrous metals), without detracting from appearance. It is said that the side-walls of this trailer body, which actually have become the load-carrying "beam", provide more than seven times the carrying capacity of the narrow center under-frame type of chassis, formerly used.

The floor and the roof serve as important members to aid in supporting the payload. These members have been designed not merely as a roof to keep out the weather; and a floor on which to place merchandise—but as contributory support members. The load is distributed on reinforced cross-bolsters, 8 inches deep. These are made of high-tensile steel and are said to have about twice the elastic limit of the bolsters formerly used.

The front-end is a formed, box-like structure. Together with the rear-end, both of which are rigidly squared and reinforced, it serves to maintain the alignment of the entire unit. Front and rear-ends are rigidly welded to the sides, roof and floor, forming a load-bearing structure without surplus material to increase the weight. Trailmobile engineers declare that as a result, every ounce of metal accomplishes a definite purpose, and while the job has been made with a great factor of safety, the very lightest possible weight has been secured.

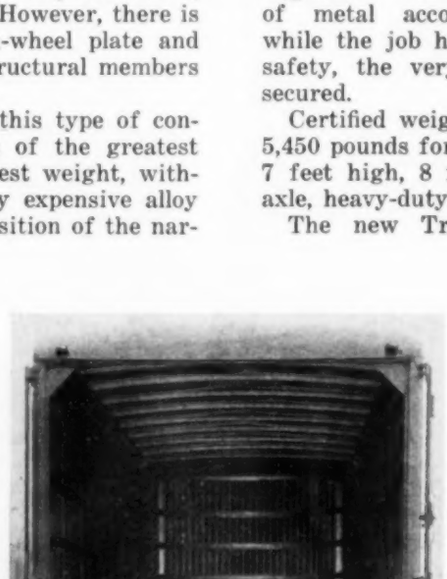
Certified weights are given, showing, for instance, 5,450 pounds for a full-sized semi-trailer, 26 feet long, 7 feet high, 8 feet wide, equipped with a 13,000-lb. axle, heavy-duty brakes, and 9.00-20 tires.

The new Trailmobile "Outside-Frame" is built in standard lengths and capacities from 22 to 30 feet, with standard 7-foot height, 8-foot width and oval front. All models are equipped with Timken tubular trailer axles, "mountain-type" brakes, winch-type tire-carrier, rubber-bushed radius rods, cradled spring-suspension and fully-enclosed prop.

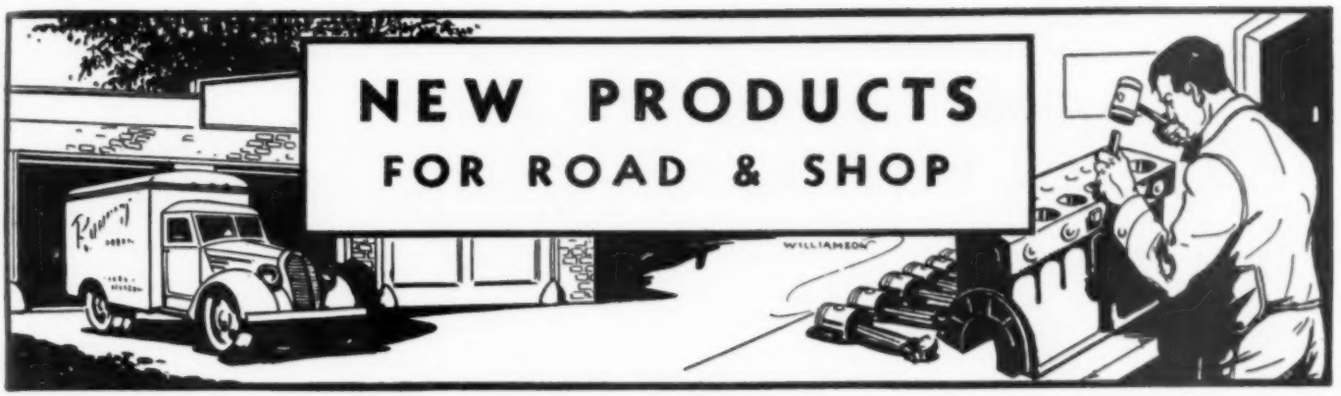
The entire under-suspension of these semi-trailers is assembled with jigs and dies to fit in correct position perfectly. It is said that no unusual principles of assembly have been used, that may require specialized equipment or manufacturing processes to maintain or repair these semi-trailers; and that the design permits low repair and maintenance expense, when necessary, because special tools or training of service departments is *not* required.

Months of design and experi-

(*Please turn to page* 53)



INSIDE view of "Outside-Frame" Trailmobile, showing construction details, axle, brakes, etc.



K-D Safety Flares

BOTH kinds of flares—liquid-burning and electric—are offered by K-D Lamp Company, Cincinnati, Ohio.

Model 604 is an electric flare, said to be moisture, dust and fool-proof. The lens is a fresnel type, emitting horizontal ribbons of light, giving maximum visibility with no glare. The lens-holder fastens to the flare. Switch is of the non-arc type. Body is drawn in one piece, with rolled bottom, to withstand damage if dropped or hit. The battery is said to afford over 60 hours of life.

Model 600 is a liquid-burning flare for all weather conditions, said to withstand wind velocity up to 50 m.p.h. and to burn dry in dead calm or rainstorm. Burning time is up to 16 hours. This flare is said to be leak-proof and to be free from oil-bleeding and odors. The entire unit is made of heavy steel.

Both of these K-D flares are tested for vibration, shock, rain, dust, visibility and durability, and are claimed to pass all specifications of the S.A.E., I.E.S., and I.C.C. . . . For more details address K-D Lamp Company, Cincinnati, Ohio, mentioning FLEET OWNER, please.

•

New "Penn-Drake" Oil

TO MEET the demand for a motor oil that resists the tendency of forming varnish, sludge and carbon, in modern automotive engines, Pennsylvania Refining Co., Butler, Pa., announces a new motor oil called "New Super Penn-Drake."

The new oil is a 100% Pennsylvania product, said to contain no non-lubricating materials, and to be entirely free of petroleum jelly and waxes. Corrosive tendencies are claimed to be practically nil, while film-strength is stated as being "exceedingly high." Tests also show that "ordinary consumption" is held at a minimum when this oil is used, according to the makers, and that it offers great resistance to the formation of sludge, varnish, etc., with a minimum of ring-sticking.

Almost a million man-hours of testing have been done, in the formulation of this new motor oil, both in the laboratory and in actual fleet service. All of this is interestingly illustrated and described in a new booklet, just off the press.

For your free copy of the booklet, write to Pennsylvania Refining Co., Butler, Pa., mentioning this announcement in FLEET OWNER, please.

•

New B-K Hand-Control Valve

INDEPENDENT control of trailer brakes on tractor-trailer combinations is gaining in general acceptance as a safety and economy measure. To meet the need for an accurate and dependable control valve to serve this purpose, Bendix announces an entirely new B-K Hand Valve known as their Model "RH" Hand Control Valve. It is furnishd for either steering-post or instrument-panel mounting.

Clayton W. Butterfield, service sales manager of the Bendix Products Division, says, "The new B-K Hand Control Valve is noted for permanently accurate calibration. If hand valves are to meet the important safety and economy need for which they are intended, it is vital that the valve afford accurate graduation so that the driver may feel confident of his ability to make partial brake applications as well as full emergency application.

"In addition to being a fine performing valve, the new RH is a fine appearing valve. Two vacuum gauges are regular equipment; one gauge registers vacuum at source, that is, the total vacuum available; the other gauge shows applied vacuum, or the vacuum that actually exists in the control line."

It is understood that the new RH valve is now available through Bendix B-K dealers.

Woven-Moulded Lining Sheets

AN EFFECTIVE method of supplying varying brake-lining dimensions is offered by The Gatke Corporation, Chicago, Ill., in their new woven-moulded brake-lining sheets, called *"Makablok"*.

From a sheet of the correct thickness, woven-moulded blocks of any required size can be quickly cut with a hand or power-saw. It is furnished in rolled sheets, 20 inches wide and 5 feet long, in 3/16, ¼, 5/16, ⅜, and ½-inch thicknesses.

"Makablok" is a woven-moulded friction material, made of tightly-woven long-fibre asbestos yarn and soft alloy wire, saturated with a high heat-resisting frictional compound, compressed to great density, and surface-ground to uniform thickness.

More information can be obtained by writing The Gatke Corporation, 228 N. LaSalle St., Chicago, Ill. . . . You'll mention FLEET OWNER, won't you?

•

Free Fuel-Line Chart

A COMPLETE list of the flexible gasoline, oil, grease and vacuum lines used on all models of cars is provided by a new, handy wall-chart which has been announced by The Imperial Brass Mfg. Co., Chicago, Ill.

The chart shows all the makes and yearly models of cars using flexible lines, gives the car manufacturer's part number, the catalog number of the Imperial Flexible Line used for replacement, and the retail price of the line. Also shown on the chart are Imperial flexible lines for use in connecting up various makes of oil-filters.

Reminder suggestions on checking fuel-lines, which point out the effects of soft, spongy or collapsed lines, are included on the chart to help service men.

Copies of this chart, which is 8½" x 11" in size, may be obtained free from The Imperial Brass Mfg. Co., 1200 W. Harrison St., Chicago, Ill., mentioning FLEET OWNER, please.

Self-Tapping Body Screws

HERE'S a Champ-Items assortment that every service department will welcome — Self-Tapping Auto-Body Screws in compartment packages.

These hardened self-tapping screws cut their own threads through metal or other substance, when the original thread is stripped or the screw is lost. Will handle any size from 3/32" diameter to ¼"—two different heads, counter-sink or binding type. Length from ⅜" to 1½"; nickel-plated.

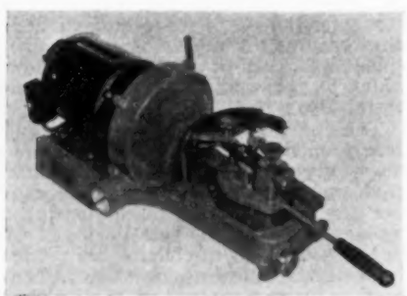
Packed 250 screws to assortment. List 2¢ per screw. For further information write the manufacturer, Champ-Items, Inc., St. Louis, Mo., mentioning FLEET OWNER, if you please.

•

Brake Shoe Grinder

A BRAKE Shoe Grinder that can be set up for any type of brake shoe, from 9" to 18" in a matter of seconds, has been announced by Lempco Products, Inc., Bedford, Ohio. . . . 100% universal in use, only two different set-ups are required, one for T-rail type shoes and one for cast shoes.

Grinding different size shoes is provided for by a staggered series of holes drilled in the base-plate of the grinder. These holes are marked off in inches, from 9 to 18, to correspond to the various drum diameters. The turret, or brake shoe holder, is placed in the hole corresponding with the brake drum diameter which the shoes



must fit. Fractional sizes are obtained by adjusting a micrometer dial on the end of the machine.

For setting up T-rail type shoes, the shoe is placed on the holder and two centering fingers, working in unison, locate the shoe in an arc, tangent to the surface of the abrasive wheel. A twist of a knob clamps the shoe in place and it's ready to grind. To bevel the ends of the lining, you pull a lever that slides the motor back and forth and grinds the ends of the lining to any depth desired.

For further details on this brake shoe grinder write to Frank Schwab, c/o Lempo Products, Inc., Bedford, Ohio, mentioning FLEET OWNER, if you please.

•

New Portable Electric Sander

RECENTLY announced is the new Sterling Gyro Electric Sander—a sanding tool designed to replace tedious hand-sanding, preparatory to applying filler, stain or paint. Can be used also for sanding between coats and for final rubbing or polishing. Suitable for use on wood, metal or other surfaces.

Weighing but 3½ lbs. and well balanced, it is easy to handle in any position—horizontal, vertical or overhead. Plugs into any 110 or 220 volt

AC or DC circuit. The Sterling Gyro uses ¼ of a standard 9" x 11" sheet of any make or type of abrasive paper, without waste. Means for attaching the abrasive is provided on the sanding pad. Cloths for rubbing may also be attached in like manner.

The universal electric motor operates at the rate of 4000 r.p.m., delivering to the sanding pad an elipto-circular motion. It is claimed not to leave scratch marks, even when operated cross-grain of the wood, when the proper grade of abrasive is used.

For fleet paint shops the Sterling Gyro has many uses, such as: removing scratches from the bare metal, sanding undercoats, feathering spot jobs and general scuff-sanding. For literature and other details write to Sterling Products Company, 2457 Woodward Ave., Detroit, Mich., mentioning FLEET OWNER, if you please.

•

Low-Priced Oil-Filter

HERE is a new, low-priced oil-filter for all cars, trucks, tractors and motorized equipment. It is claimed to remove carbon, sludge,

acids, etc., and to filter and purify the oil.

This new filter is available in a magnetic type, as well as a non-magnetic type. The former has a built-in magnet which is said to attract all iron and steel particles.

The permanent outer shell lasts indefinitely, and replacement cartridges are available at a specially low price. This manufacturer also announces a new low-priced replacement cartridge to fit *other* makes of filters.

For more details and list price (which is quoted at an extremely low figure) address Pick Manufacturing Company, West Bend, Wis., mentioning FLEET OWNER, if you don't mind.

•

New Synthetic Floor Enamel

BAERTEX, the new abrasion-resisting enamel is now available not only in battleship gray, but also in 21 other colors. The color-card will be furnished upon request.

This high-gloss enamel coating is intended for use on concrete floors and on any interior surface wherever a glossy, long-wearing, overnight-drying finish is desired. It is also intended as a hard-wearing gloss wall paint and will give long wear, as it can withstand innumerable scrubbings and cleanings, the makers state.

Baertex, a synthetic enamel, has an average covering power of 600 to

700 square feet per gallon. Its outstanding merit is its abrasion-resisting quality, according to the makers.

Manufacturers and sole distributors are Baer Brothers, 438 West 37th Street, New York City. . . . When writing for free color-card, mention of FLEET OWNER will be appreciated.

Brake-Pressure Control

VICKERS Power Brake Company announces a new pressure control-valve for controlling the pressure of front-wheel hydraulic-type brakes.

When it is desired to change front-wheel brake pressures, such as converting a standard truck to a tractor, or to reduce them during the winter months, this device can be easily inserted in the front-wheel brake line, and can be adjusted to shut off or on, in any amount from Zero to 1500 pounds per sq. in. The operator is thus enabled to balance the front-wheel brakes to the exact requirements of the job in hand.

The new valve is a low-cost, precision-built reducing-valve. Expansion of the brake drums due to heat, will not affect its operation, it is claimed. It automatically maintains, at all times, the selected pressure, and will enable operators to meet I.C.C. requirements calling for a percentage of braking on front wheels at all times.

For more details, prices, etc., address Vickers Power Brake Company, 2427 No. Broad St., Philadelphia, Pa., mentioning FLEET OWNER, if you don't mind.

●

New Alemite Foot-Gun

A NEW low-pressure, volume-delivery, foot-operated lubricating gun is announced by the Alemite Division, Stewart-Warner Corp., Chicago, Ill.

Manually operated by a foot-pedal, the gun has a capacity of 25 pounds.

It pumps approximately one cubic-inch of grease per stroke. When operated by hand, the maximum pressure is 3,000 pounds; when operated by foot, 5,000 pounds.

The gun is equipped with 7 feet of hose and will deliver one ounce of lubricant for every three strokes. It is a companion to the Alemite high-pressure foot-gun having 15 pounds capacity, and higher pressures.

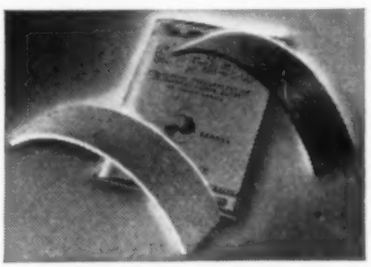
The makers recommend the new Alemite low-pressure gun for jobs requiring volume delivery and low pressures, such as trucks having large wheel bearings, large universal-joint capacities, gear boxes, etc. . . . Further information, if desired, can be obtained from Alemite Division, Stewart Warner Corporation, Chicago, Ill. . . . It's always appreciated when you mention FLEET OWNER.

●

Free Brake-Lining Manual

BRAKE problems, especially those having to do with proper balancing of truck and bus brakes, can be easily solved if you have a copy of the *"Grey-Rock Guide"* offered free to fleet men.

All that's needed, say Grey-Rock engineers, is a copy of the "Guide", plus the right combination of brake materials. For trucks and buses using rivet-on blocks, they offer two different types—Grey-Rock Blocks, and HiWay BloX. The former type



is identified by orange edges and is rigid-moulded for medium friction. The latter has black edges, and is rigid-woven for higher friction.

Grey-Rock engineers further claim that with these two blocks and the "Guide", the brakes of any vehicle using rivet-on blocks can be perfectly balanced. The "Guide" is free. For your copy address U. S. Asbestos Division, Manheim, Pa., mentioning this announcement in FLEET OWNER, if you please.

●

New Schrader Valve Cap

A NEW tire valve cap with a heat-resisting washer, made especially for inner dual tires, is now available to truck and bus fleet operators. It is known as No. 440 and combines the positive air-tight unit of the standard Schrader valve cap with special additional advantages for inner dual tires.

The sealing washer is made of special heat-resisting rubber, moulded between two dome-shaped brass plates. This construction tends to lock the cap on to the valve so that vibration cannot shake it loose, and it reinforces the washer for longer life.

The outside body of the cap is made with a knurled design, which permits application with a special socket-

wrench with screw-driver grip. The wrench has an internal grooved socket to fit the cap, and a rubber sleeve to prevent the cap from dropping out of the socket while being applied. The long extension handle of the wrench makes it easy to apply caps to hard-to-reach inner dual tire valves.

For more information and a copy of the new Schrader tire-valve and equipment catalog address A. Schrader's Son, Inc., 470 Vanderbilt Ave., Brooklyn, N. Y. . . . You'll mention FLEET OWNER, won't you?

●

Makes Car-Washing Easy

AFTER exhaustive tests under all types of commercial bus and truck washing operations, the well-known and widely-used Beaurline Fountain Brush has been re-designed for longer wear and more thorough, fast, finish-saving washing of all types of trucks and buses.

The new model has a light-weight, extra-long handle and one-piece cast head with longer, thicker brush of pure soft bristles. The new head has a rubber bumper for protection of finishes, and is both removable and replaceable at low cost. The new design allows a freer flow of water for

fast slushing away of all grit and dirt and the head does a cleaner, streak-free washing job. All metal is rustproof and ruggedly constructed.

An inquiry will bring complete information and literature, without obligation. Address Rapids Products Co., 220 Sixth St., N. E., Cedar Rapids, Iowa. . . . You'll mention FLEET OWNER, won't you?

Spark Plug Analysis Chart

TO MAKE spark plug analysis a quick, easy and reliable procedure, the Spark Plug Division of Electric Auto-Lite is supplying large color-

matching charts of enameled metal. The charts indicate six plainly-distinguishable colors, one of which will be similar to the color found on every used plug, regardless of make.

Matching the insulator color against the colors of the Auto-Lite Analysis Chart, enables one to quickly and reliably determine whether the plug is of the correct type and is operating under favorable or unfavorable service conditions; whether it is operating properly or whether it is too hot, too cold, slightly hot, or slightly cold. The common remedy for a plug that operates too hot is the selection of a colder plug. Too cold a plug should be replaced with a hotter plug.

A valuable feature of the Auto-Lite spark plug color-matching chart is the fact that the indications of the chart are so plain and unmistakable that their meaning is quickly understood. . . . For further information about this chart, write directly to Frank Nealon, c/o Electric Auto-Lite Company, Toledo, Ohio, mentioning FLEET OWNER, if you don't mind.

•

New G-E Dynamometer

GENERAL ELECTRIC has announced a new inductor-type dynamometer for engine-testing, possessing the same high-torque accuracy characteristic of the direct-current machines it has made for over thirty years. This new type, less than half as large as the direct-current machine, is rated at 600-hp as compared with a 300-hp rating for the d-c dynamometer.

Some of the advantages of the new dynamometer are accurate torque-indication at low cost, low maintenance because of simplified construction, compact design, and ease of operation. Torque and speed are controlled by a simple rheostat.

Control for the inductor dynamometer involves a main field rheostat and a vernier rheostat for the control of torque and speed. They regulate the current to the field coil in the same way that it is regulated in the case of a d-c machine. There are also a push-button-operated line contactor for the d-c supply, and an ammeter and voltmeter for the field circuit.

If the prime mover is an internal-combustion engine, interlocks are also provided to cut off ignition under the conditions of too high a temperature due to faiure of water supply, or failure of excitation.

•

Adjustable Shop Horses

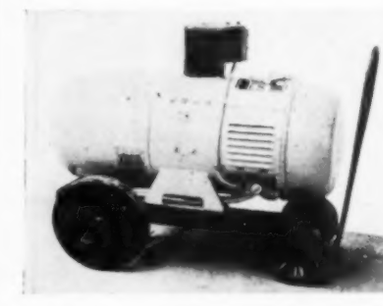
MAKING full use of the light weight and structural strength of a cone, the Ajax Auto Parts Company of Racine, Wis., has engineered new conical-shaped, 2-ton, adjustable support racks that are said to set new standards for safety and ease of handling.

Called "Silver Horses" because of their high silver finish, the new racks are specially formed from selected steel. Large handles make them easy to position under a car and their 11" to 17¾" lifting range provides plenty of open working space.

The "Silver Horses" are said to meet every demand for safety and strength with their malleable-iron rack-bars and caps that hold the load securely. "Silver Horses" provide service men with an extra margin of safety and release the regular service jacks from major maintenance jobs.

Remote-Control Welders

A NEW device for remote-control of arc-welders, is announced by Wilson Welder & Metals Company, Inc., New York, N. Y. The single



control of the "Hornet" and other Wilson arc-welders is well adapted to operation by this method. To utilize the new device, the hand-wheel which governs the control-pole of the standard welder is simply replaced by a reversible motor-driven device.

Said to cover the entire range of the machine to which it is attached, in both high and low settings, the new device allows minute adjustments in current output by merely touching one of two contacts on the electrode-holder to the ground. In other words, when the electrode-holder button marked "more" is brought into contact with the ground, the electric motor in the remote-control housing on top of the machine revolves and raises the control-pole core, increasing the output. The motor revolves only while actual contact is maintained.

When the button marked "less" is grounded, the remote-control revolves in the opposite direction and lowers the control-pole core, decreasing the output. The contact buttons are shaped differently, so that the operator can easily locate the correct one, even in poor light.

The 1/80-horsepower electric motor, which is all that is necessary to operate the control-pole, is protected by two limit switches and by a slip-clutch to prevent damage when the end of the range is reached. The generator may be preset by push-buttons mounted on the control itself.

Further information about this new remote-control device may be obtained by writing Wilson Welder and Metals Co., Inc., 60 East 42nd Street, New York, N. Y. . . . It's always appreciated when FLEET OWNER is mentioned.

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New Folder on Marmon-Herrington Trucks

A NEW folder, illustrating and describing the new 1940 models of Marmon-Herrington's heavy-duty All-Wheel-Drive trucks has recently been issued. . . . The new series of trucks, known as the DSD Series, is available in 33 different models, with gross capacities up to 70,000 pounds. . . . Free copies of the new folder are offered. Address C. A. Campbell, c/o Marmon-Herrington Company, Indianapolis, Ind., mentioning FLEET OWNER, please.

OPERATING and MAINTAINING a COUNTY'S VEHICLE FLEET

(Continued from page 34)

facilities and equipment for routine work.

It is the policy of the garage to take care of big repair jobs or overhauls if it is possible to bring in the truck, car or other piece of equipment and still practice good economy. A certain amount of work is going on continuously, cars other than Road Department cars and equipment accounting for an appreciable part of the routine load. It is customary to check all cars very thoroughly every one thousand miles, when it is required that each car be brought in for greasing and oil change. Furthermore, very good success has been achieved in impressing on drivers the necessity of reporting car trouble and poor performance. A county employee knows he will be able to get a utility car if he checks his regular car into the garage, so he has the habit of taking his car in rather than trying to get by on the hope that his trouble is only passing and will disappear.

The garage is charged with the responsibility of supervision of all county cars and the details of their operation, expenses, and maintenance. All gasoline, oil, etc., furnished to cars in distant sections of the county is billed through the garage where cost-accounting is centralized and claims are routed to the county auditor's office.

The Riverside County fleet consists of 116 trucks, 36 passenger-cars, 13 tractors, 4 road rollers, 2 power graders, 3 power shovels, and an assortment of miscellaneous small equipment, some of which is power-driven, some not.

Accurate cost-accounting records are kept on all passenger-cars, and due allowances are made for factors such as insurance and depreciation, together with full overhead charges, including rent, power and other incidental costs.

The passenger-cars in the fleet range from 1931 models to current year models, about one-third being models of the present year. Light cars of the most popular makes account for two-thirds of the passenger-cars, the other one-third being miscellaneous light and heavy models.

Cost figures on the fleet of 36 passenger-cars, for a recent year, were recorded as follows:

Maintenance and Operation	$17,500
Depreciation	5,983
Supervision	864
Building Rental	756
Interest on Investment	648
Total	$25,751
Credit from Insurance	700
Net total	$25,051
Average cost per mile	$0.0334

An important factor in bringing about such a low cost per mile is the large mileage that is put on cars. Several cars are assigned to officials who do not put much mileage on their cars, and it is noticeable how those costs run into higher figures per mile. For light cars, a comparison of three will emphasize the point.

Car operated 56,375 miles in year—cost .....$0.020 per mile
Car operated 13,601 miles in year—cost ..... .044 per mile
Car operated 11,000 miles in year—cost ..... .0475 per mile

The above were all new cars, but to carry the idea one step further, an older light car operated only 7,368 miles and cost $0.0792 per mile.

In the heavier cars, two may be singled out for the comparison. A new car operated 8,480 miles and cost $0.049 per mile, while an older model went 41,925 miles and cost only $0.036 per mile.

LINK-BELT Speeder Corporation, Chicago, announces a newly-designed line of crawler shovels, equipped with hydraulic control and Diesel, gas or electric power.

Certain policies, rules, and habits have been worked into the garage management, and contribute largely to economies which, in turn, make for a low cost per mile. No car is kept longer than the point where it is likely to occasion large repair expense. This is approximately sixty thousand miles on most cars, but there are sometimes situations when a car has been completely overhauled at around forty thousand miles and it is economical to keep it longer.

Purchasing policy is most important, and the garage has facilities which are advantageous for quantity buying. Gasoline, for instance, is bought in carload lots; recently the cost of first grade gasoline on such a lot was $0.1267 per gallon, including tax. There are two pumps and underground storage tanks that will handle 20,000 gallons.

Similar quantity buying carries through to oil and grease. The garage considers as normal storage from two to four barrels each of the five weights of oil normally used in passenger-cars. Only good quality oil is used; various of the bigger companies have secured the contract on bid, so well-known brands of tested quality make up the oil supply of the county garage.

A further economy has been carried out on oil requirements through the use of an oil re-refiner. When a good quality oil is drained out of passenger-cars, such as the Sheriff's, there is still a lot of life left in the oil through the process of re-refining. Drainings are accumulated a barrel at a time and then processed in the equipment, which has a capacity of 28½ gallons every eight hours. An oil originally costing around 70 cents per gallon is reclaimed at a cost of about 16 cents per gallon. In using this oil, experience has been uniformly good and a worthwhile saving has accrued to the county.

It is not customary to stock parts and accessories at the garage, as the garage secures county discounts from the various automobile supply houses located in the city within several blocks. An exception, in the past, has been in the case of tires. Not long ago a contract running to between $3,000 and $4,000 was negotiated during a price war. Delivery was not taken all at once on the tires, and a few sizes are yet to be used. From fifteen to twenty tires are kept on the racks all the time as garage stock.

In recent years enough work has come into the garage to keep three mechanics at work steadily. In addition, there is a blacksmith and a grease and wash man. Two ambulances are kept at the garage, and each has a driver. These men customarily handle the routine of pumping gasoline into cars and putting in oil. Once in a while some extra help is taken on to help out in emergencies.

In addition to this personnel, there is a superintendent at $2,700 a year and an assistant superintendent at $2,100 per year. Mechanics are paid 75 cents and 85 cents an hour, while the grease and wash man and the ambulance drivers get 60 cents per hour. The mechanics and other help are employed on a per day basis, costs being absorbed in the working of the revolving fund. In the case of the ambulance drivers, the cost of their wages is taken up by a special item of $7,800 in the budget for the support of county ambulances.

The garage operates through a revolving fund, and it is significant that, with a fleet of one hundred and fifty-two cars and trucks plus about fifty pieces of road equipment, only $67,530 is needed. This also finances large purchases of supplies and stock as described earlier in conjunction with comments on quantity buying.

Each department is billed monthly for the expenses incurred through the garage. The itemized statement is

(Please turn to page 56)

Dependable Nation-wide Service is your assurance of *long-time, profitable operation . . .* with

HEIL HOISTS, BODIES and TANKS

Powerful Heil Hydraulic dump units are made in all types and capacities for all kinds of service.

Heil Trailerized Transportation Tanks carry bigger payloads at lower costs — Send for free Tank catalog.

It pays to do business with a substantial organization that is always nearby to back up its claims . . .

Whatever you need in hydraulic dump units and transportation tanks, Heil provides units correctly engineered for trouble-free, money-making, heavy duty service — *and accepts full, undivided responsibility for its claims!* Years of experience and research — and a network of Heil service stations — stand back of the famous Heil Quality trademark—which contractors everywhere have learned to accept as a guarantee of satisfaction. Get Heil recommendations on your next equipment order. Write today for free Heil equipment manual.

MILWAUKEE, WISCONSIN **THE HEIL CO.** HILLSIDE, NEW JERSEY

Hoists — Bodies — Road Scrapers — Tanks Snow Plows

HEIL Quality Products

Bottle Washers — Heating Equipment — Dehydrators Water Systems

Flares and Fusees

(*Continued from page* 28)

ing question: "*Would you continue to carry flares, if not required by law?*" . . . The answers were: "Yes"—132; "No"—29; "No Answer"—5. That's how we get that way, when we say that fleet men regard flares as a valuable piece of safety and utility equipment. Reason enough?

Source of supply always being of interest, our next question asked, "*What is your principal source of supply on flares?*" The answers were: "Automotive Jobber"—125; "Equipment Distributor"—23; "Flare Manufacturers"—23; "Retailer"—6. Some fleet men gave more than one source of supply, which accounts for the great number of mentions.

And here is an interesting question having to do with costs. We asked, "*About how much does your average set of flares cost, per vehicle, initially?*" . . . A total of 124 operators answered this question, giving figures which ranged from 50c per set, to as high as $12.00 per set. From the figures we gleaned that fleets pay an "average" price of $3.78 per set of flares. . . . It should be noted that *various* types of flares have been averaged into this figure.

An analysis of the individual replies reveals that fleets are purchasing stick-type fusees at from 50c to $1.00 per set of three. . . . Oil-pot flares were quoted at prices ranging from $1.00 to $6.00 per set of three. The figures for electric flares seemed to have a somewhat higher range; also combination "per-vehicle" outfits of flares, where more than one type of flare is included in the set. It is possible that the foregoing figures may be quite meaningless, but we offer them for whatever they might be worth.

In answer to the question, "*How often do you check and inspect your flares?*", most fleets replied "Monthly", with "Weekly" and "Daily" close seconds. Of course there were a few operators who check their flares less frequently, but these were very few. Some operators do not check them at all, except at such times immediately following the actual *use* of the flares. Not often enough, to our way of thinking.

The question "*On what basis do you select flares?*" brought the following answers: "Dependability"—116; "Convenient to Carry"—60; "Low Upkeep Cost"—49; "Easy and Safe to Handle"—43; "Low First-Cost"—28 and (believe it or don't) "Anything to Pass the Law"—9. . . . Apparently those who indicated this last basis of selection are not "sold" on flares. It is gratifying to note that these are so few. . . . Incidentally, many operators gave more than one of the above factors; they are tabulated according to the number of mentions received.

Remarks always being of interest, we are reproducing, at random, some of the more pertinent and outstanding remarks, kicks and complaints registered, in the interests of better flares and a more intelligent use of same:

"*In our fleet (public utility) fusees are also carried to provide light for working after dark along highways, to provide additional safety.*"

"*Kerosene flares are messy, and a constant maintenance problem. Fusee type of flares are good until used, and require no attention.*"

"*In our opinion, there is not a flare on the market that is really good, all-around. The kerosene types leak and are very messy and smelly. The electrics are not sturdy and require frequent adjustments and repairs. Both are priced too high. Small fleets may find them o.k. but a large fleet like ours (275 vehicles) cannot maintain the rigid supervision demanded.*"

"*Flares are often stolen from vehicles. Batteries in electric flares lose their strength when not used.*"

"*Don't think we ever used flares, but our trucks carry them to pass the law.*"

"*Most metal flares of the pot type tend to leak, due to water in kerosene rusting the metal through. Have trouble with corrosion on electric flares.*"

"*No trouble with oil-pots. The stick-type fusees are hard to carry in good*

condition to use when needed."

"Have trouble in keeping oil from leaking out of nested type pot-flares."

"What we need is better enforcement of the flare law." (Maine).

"Drivers use electric flares at night when making gas and oil deliveries."

"Hinges of flare boxes are not strong enough; break off too easily."

"Majority of flares leak if carried in bracket. In kits they last much longer, but they could be built better, especially in the seams."

"It is often difficult to stow pot-type flares right-side up at all times."

"Electric flares will freeze up in sub-zero weather."

"Pot-type flares leak; brackets not suited; cost too high; gaskets not good."

"Flares are good things to carry, as they do cut down night accidents."

"Oil-pots often overflow, due to expansion in warm weather; also syphonage."

"Trucks running nights have electric flares. Trucks running days only are equipped with anything to pass the law."

"Have found oil-pot type of flare to be best in all kinds of weather."

"Present flares are far from being bright enough."

"Flares not required in our operation; however, we use them for safety."

"Need a practical place to carry pot-flares on vehicle."

"Fusees should be carried with flares, for quick lighting purposes."

And that, folks, is the story on flares. This survey can be considered quite "representative," as it includes the experiences of 166 fleets which are using flares, and 24 fleets that are considering using them. These 190 fleets are located in 35 states and Canada, and have an average of 162 vehicles each, or a combined total, as follows: 18,550 trucks, 1,777 tractors, 2,221 trailers, 6,603 passenger-cars, 1,142 buses, 235 taxicabs and 276 miscellaneous vehicles. The grand total is 30,804 vehicles.

Maybe it will be in order to give you a list of the industries, whose fleets participated in this survey. This will serve to give you a better idea as to the general coverage of it, and also an idea of the *tough* job it is to word a questionnaire that will be answerable by a fleet operator in *any* line of business. Fleets in these industries participated: Trucking, local and long distance; ice cream; dairy products; bakeries; public utilities; manufacturers; municipalities; petroleum companies; ice and coal dealers; contractors; building material companies; grocers; department stores; meat packers; drive-yourself companies; truck-rental companies; bus operators; brewers; laundries; county departments; state departments; federal departments; food products; bottlers; taxicab companies; lumber companies; newspapers; nurseries; insurance companies; hardware wholesalers, etc.

So you see, this survey is *quite* representative. We would like to see a greater number of fleet operators participate in this monthly feature, in return for which you will get a private and personal copy of the *confidential* tabulation which we make. This contains all such information that we can't give here—such things as tradenames, etc.

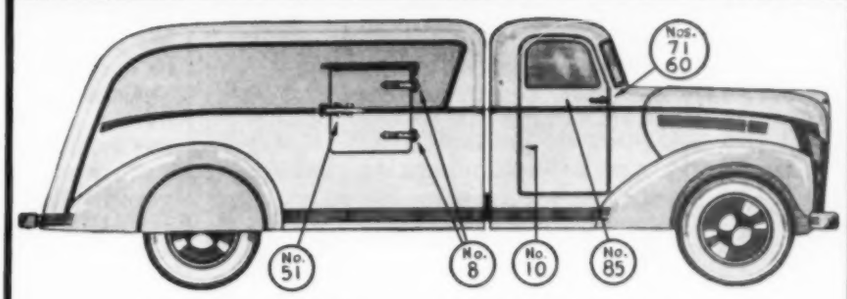
During the months of July and August, we have not printed any new questionnaires, believing that everyone is entitled to a "vacation" and giving you fellows (and ourselves) a break. We'll be right back at you, however, with a new questionnaire in our September issue, and we'd like to see as many fleet men participate in it as possible. It's your cooperation that we need to keep this department a success.

•

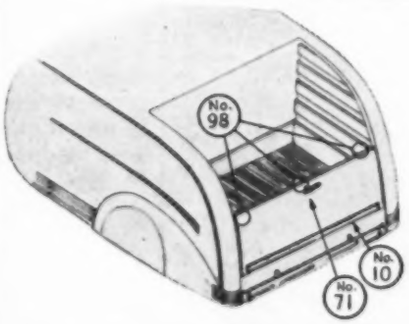
New P.A. for Air Reduction Company

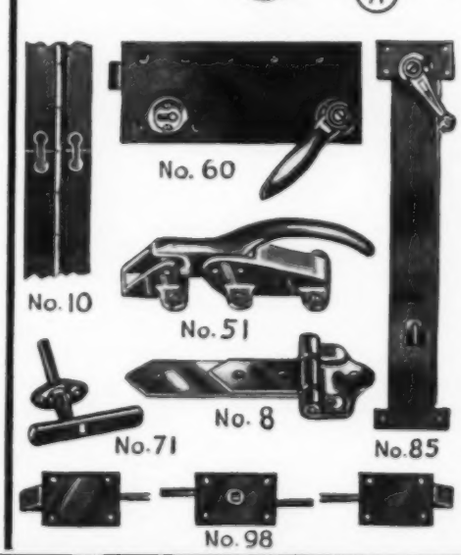
C. R. HALE has been appointed purchasing agent of the Air Reduction Company, 60 East 42nd Street, New York, N. Y. and its subsidiary and affiliated companies. . . . Mr. Hale, a Columbia graduate, joined the purchasing department of Airco in 1925 and has been assistant purchasing agent since 1936. . . . In his new position Mr. Hale succeeds H. M. Daggett, who has retired.

Faster Deliveries-Better Service with HANSEN-HARDWARE



Body design by E. M. Westberg





SIMPLE design—ruggedness—economical installation—easy operation—unusual durability — these features make Hansen Body Hardware preferred by a larger majority of designers, body builders and users.

Made of stronger materials—designed to withstand rough, continual usage—Hansen Hardware is built for and gives better performance, over longer periods, under the most exacting conditions.

The real test of Body Hardware is—does it stand up? Is it rugged and strong enough for commercial body use? That test is fully met with Hansen Hardware.

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No. 8—Leaf-Type Hinge. Two-ply. All-steel Size, 8" long, 1¾" wide. Other lengths available; 12", 16" and 20".

No. 10—Continuous Hinge. Standard 12-inch lengths. Makes hinges of any length.

No. 51—Refrigerator Door Lock. Snaps open—snaps shut. Long, easy-to-grip handle.

No. 60—Extension Lock. Made in one piece. No loose parts. Wide striker bolt.

No. 71—Offset Handle Grip, 4" x ⅝". Large, easy-gripping surface. Strong. Durable.

No. 85—Window Regulator. Straight lift. No sticking or jamming.

No. 98—End Gate Lock. Specially designed for end gates. Slams shut.

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PREPARE
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● Every vehicle now transporting people or essential materials should be immediately prepared for safe, dependable emergency service.

National preparedness demands that trucks and buses be kept running constantly —with least lay-up for repairs.

TRU•STOP Emergency Brakes (the only ventilated disc brakes that throw off harmful braking heat) are saving lost time on thousands of trucks and buses. They may be used continuously to make emergency stops —and to supplement service brakes, as in descending long, steep grades.

Made for all trucks and buses.

Specify **TRU•STOP** on your new trucks or buses.

TRU•STOP *Emergency* **BRAKES**

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AMERICAN CHAIN & CABLE COMPANY, Inc.

Penna. Turnpike to Extend to Philadelphia

PENNSYLVANIA'S super-toll-highway is to have another link. The Turnpike, originally planned to stop at Harrisburg, will be extended to Philadelphia and thus the road when completed will stretch across the state from the City of Brotherly Love to Pittsburgh, a distance of approximately 240 miles.

The Turnpike from Pittsburgh to Harrisburg, a four-lane concrete highway with east-west traffic separated by a 10-foot center parkway, is expected to be opened on Labor Day. Location of the route of the new link to Philadelphia has not yet been determined.

The Pennsylvania Turnpike was originally planned to link Harrisburg, the State Capital, to the great Pittsburgh industrial area. Now the added stretch to Philadelphia will link the Philadelphia Navy Yards with the industrial western section of the State.

Under the tentative fare schedule, the average rate for passenger-cars will be from $1.25 to $1.50 and for trucks from $4 to $10 for the entire trip. For vehicles traveling less than the full length of the trip the tolls will vary from 1c per mile for passenger-cars, to 4c per mile for heavy trucks. The highest fee, $10, will be on trailer combinations from 30,000 to 60,000 lbs.

According to consulting traffic engineers retained by the Commission, 1,300,000 vehicles will pay tolls the first year of operation and traffic will increase to 2,070,000 by 1945. Estimates of revenue for the first year are $2,670,000, increasing to more than $4,000,000 in 1945. In addition to tolls, revenues will come from concessions.

The Turnpike will stretch through the Appalachian Mountains. Access to the Turnpike is provided at the east and west terminals, and at 9 intermediate points. No highway is permitted to cross the Turnpike at a grade, but 160 over-passes and under-passes will carry crossroads over and under the pike. To span streams and rivers along the way, 139 bridges are required. The maximum grade on the Turnpike is 3%. More than two-thirds of the 160-mile completed Turnpike is on a straight line.

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Facts About the New 100-Octane Fuels

GIANT commercial airliners and the huge flying fortresses of U. S. air-defense forces owe almost as much to the chemical genius of the petroleum scientist in inventing methods of making super motor fuels, as to the vision of the plane designer. Now automotive engineers, speculating on automobile motors of the future, foresee the possible development of small, super-charged high-compression engines built to utilize these powerful fuels and save motor vehicle users 50 per cent in gasoline consumption.

Modern aviation fuels and lubricants are essentials without which today's huge planes of necessity would remain a designer's dream. More important, they are only milestones in the rapid technological changeover of the American petroleum refining industry from a purely physical to a chemical enterprise, in which laboratory researchers are making possible the synthesis of scores of basic industrial chemicals.

Ten years ago the 100-octane fuel that now gives life to multi-engined, multi-ton planes, was a laboratory curiosity costing $30 a gallon. Already nearly a dozen different commercial refining methods have been devised by petroleum scientists to produce this high-octane fuel from crude petroleum and its gases, and in 1939 approximately 25,000,000 gallons of it

were supplied to air lines and the government at a cost one-hundredth of the 1929 laboratory price. Rapid development of these processes has given the United States almost a world monopoly on these super aviation fuels, and promises production of 125,000,000 gallons in 1940; enough to fill the entire U. S. requirements of motor fuel for aviation.

For the huge airliner these new 100-octane fuels permit at least 25 per cent increase in power, 12 to 15 per cent reduction in fuel consumption, safer take-off, faster climbing, higher speed, longer cruising radius, greater pay loads, and all that these advantages mean to such unsuspected factors as the size of airfields.

Nearly a dozen processes, most of them developed within the last few years, (some still in the experimental stage) can produce the 100-octane fuels. Hydrogenation, dehydrogenation, polymerization, alkylation, desulfurization, isomerization, aromatization are some of the new catalytic, chemical, or thermal processes; in the laboratory they have produced, experimentally, fuels with ratings above 100-octane. This compares with the average 87-octane rating of regular aviation fuels and the 71-octane average of regular-grade automotive gasoline today.

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1939 World Motor Vehicle Statistics

WORLD production of motor vehicles in 1939, amounting to 4,779,170 passenger-cars, trucks and buses, was almost 20 per cent higher than for 1938, the Automotive-Aeronautics Division of the Commerce Department reported recently.

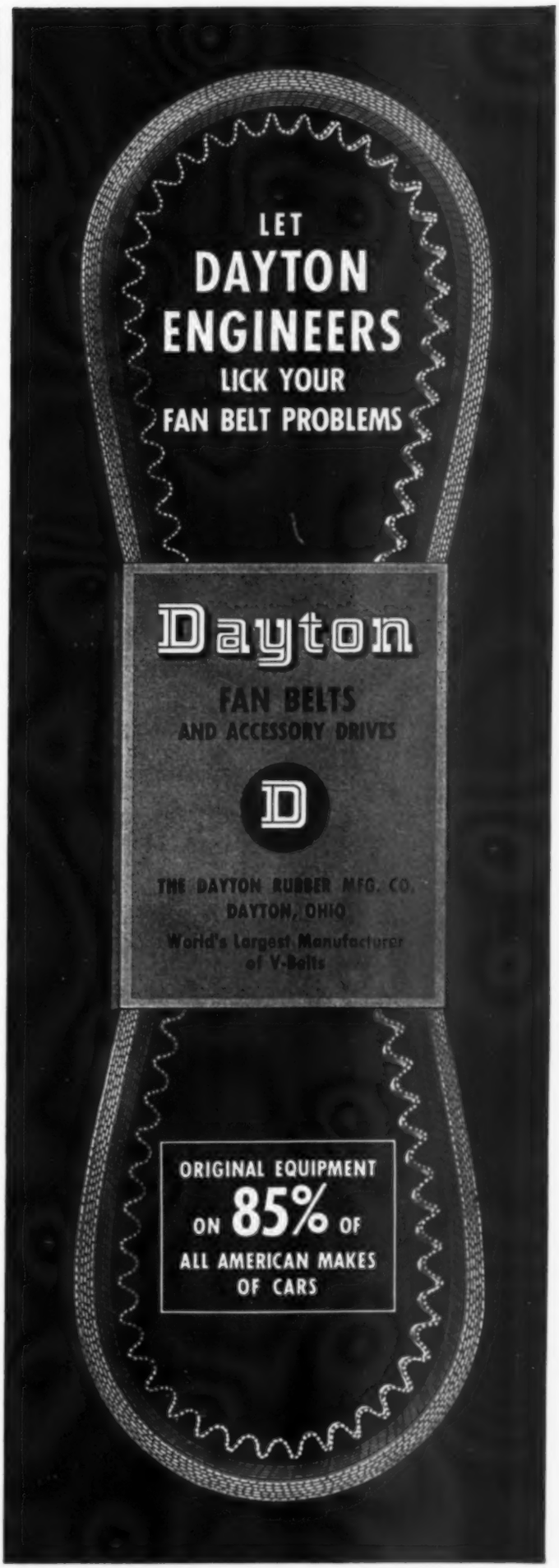
Manufacturers in the United States and Canada accounted for 78 per cent of the total, the United States producing 2,866,796 passenger-cars and 710,496 trucks and buses. Canada's output last year amounted to 108,369 passenger-cars and 47,057 trucks and buses.

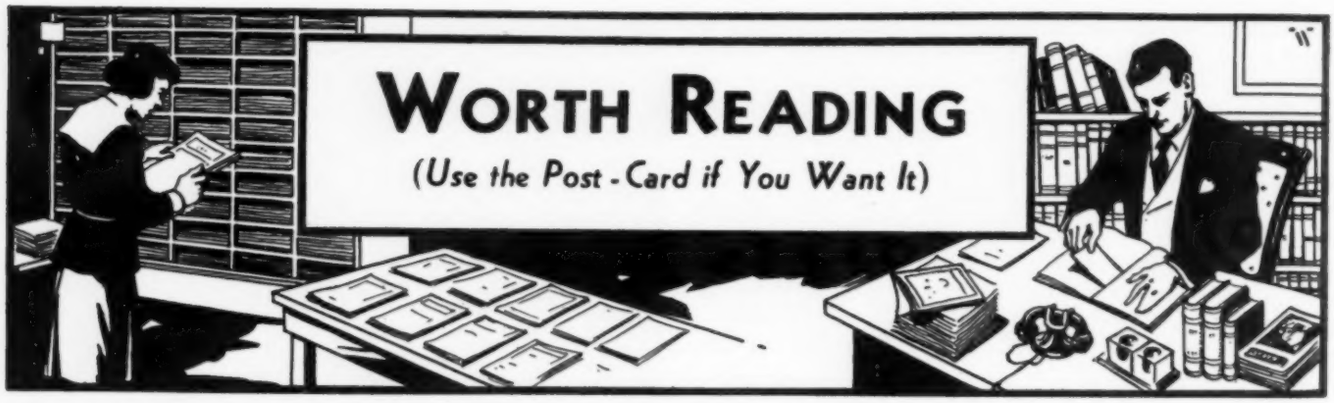
Concentration of European manufacturers on war materials is evident in the output totals for 1939 as compared with 1938. With the exception of Sweden, all showed lowered manufacturing totals because of the change-over to the fabrication of munitions and other materials of war. Only Japan showed an improvement in its shipments of automotive units, most of which were destined for the yen-bloc area. The United States and Canada exported 8.3 per cent of total production against 12.6 per cent in 1938.

Production in Germany in the first 6 months of 1939, after which statistics were not made available, included 143,600 passenger-cars and 36,600 trucks and buses. Approximately 50 per cent of the bus production was gasoline-powered, 45 per cent was Diesel-powered, and the remainder designed to operate with compressed gas, wood gas and electricity.

Italy's production of passenger-cars for 1939 is estimated at 55,000 units, although as in the case of Germany, official figures were not made available after August 31. Truck and bus production is estimated at 9,100 units. Output is reported to have declined 35 per cent in the last six months as compared with the January-June production due to the militarization of all producing plants.

Japan's domestic output of passenger-cars in 1939 was 300 cars and 18,500 trucks and buses. Practically all the passenger-cars were sold to the Army. Expanded plant facilities of Nissan and the efficiency of the new plant of Toyoda were factors in nearly tripling truck production over the 1938 output.





WORTH READING

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HAND-PICKED. . . . And we mean it! . . . Here are TEN booklets selected by the Editor as being worthy of a place in your "New Literature" file. . . . Note that they are NOT tied-in with advertisements, but have been chosen strictly on their own MERITS. . . . No high-pressure. . . . Send for any of 'em that appeal to you.

31. DIESEL DATA. . . . Here's a brand-new booklet, hot off the press, giving detailed specifications, horsepower, torque and fuel-economy curves of the entire line of *Cummins Diesel* engines. . . . Besides being chock-full of information on these engines, it is a very attractively-prepared piece, of standard size, to fit in your files for future reference. . . . You'll find the story about their *supercharged* Diesel especially interesting. . . . Number 31 on our post-card and a copy is *mailed* to you promptly.

●

32. HYDRAULIC BRAKE GUIDE. . . . The title of this is *"How to Bleed and Refill Hydraulic Brake Systems"* and it's a manual that's just what its name implies. . . . In simple, easy-to-read copy and illustrations, it tells the proper methods for bleeding all types of hydraulic brake systems, including trucks and buses. . . . In addition, it includes a section on special tools and equipment necessary to do this work efficiently. . . . This little pocket-sized manual is yours for the asking; just jot down Number 32 on the post-card.

●

33. LIGHTING GUIDE. . . . Now that the I.C.C. requires private carriers to comply with its safety lighting equipment regulations, this new lighting guide will come in handy, as it contains a summary of the *latest* I.C.C. regulations, as well as a list of all individual *state* requirements for lighting and signalling equipment. . . . In the same mail will come a beautiful catalog of such equipment, and we promise that nobody will ask you to buy a thing. . . . We keep a copy of this material in our "lighting equipment" file. You can do the same. . . . Just mark Number 33 on our post-card and it's *mailed* to you promptly.

●

34. COLOR PACK. . . . The makers of *Kem Finishes* offer, through this department, the new *Kem Color Pack*, containing generous samples of 77 durable truck body colors. . . . In addition to this there will be literature covering the latest developments in synthetic enamels and how to apply them. . . . Number 34 on our post-card brings this material *by mail*. . . . Send for it and give it to your truck painter; no obligation.

●

35. PERFORMANCE DATA. . . . Here is a collection of actual fleet reports from operators who have used some of the latest materials for sludge control. . . . The title is *"Truck & Bus Fleet Performance Data"*. . . . It also shows how users of modern motor and chassis cleaning compounds have cut their cleaning costs and improved the quality of results obtained. . . . Number 35 brings this data *free;* the post-card is for your convenience.

●

36. SCHRADER CATALOG. . . . Here, under one cover, is a *complete* catalog on standard tire-valves, valve-insides, valve-parts, blow-guns, air-line hose and couplings, tire-valve service tools and hose-fittings, tire-inflating chucks and tire pressure gauges. . . . In short, it's the complete Schrader line-up, in their latest dealer (and fleet) catalog, which they advise you to keep on file for ready reference. . . . There's data in it on tube-repairing, valve-attaching, valve-bending and also recommendations for solving valve troubles on dual equipment. . . . Number 36 means that one of these catalogs comes to you *by mail*, without obligation. . . . Just use the post-card, if you'd like one.

●

37. TEN WAYS. . . . Servis Recorder has distributed many thousands of copies of its booklet, *"Ten Ways of Getting More Work Out of Motor Trucks"*. . . . If you haven't as yet seen a copy of it, they'd like to send you the latest edition which contains 16 pages. . . . We guarantee that you'll learn something about the use of motor truck trip-recorders that you never thought of before. . . . Number 37 on our post-card brings the latest edition, *by mail*, and without obligation of any kind.

38. COLDJET REFRIGERATION. . . . Much interest has been shown in truck body refrigerating systems, especially in this hot weather. . . . Comparatively new is the system which uses salt-and-ice in conjunction with a mechanically-operated brine distribution arrangement—fashioned after the latest accepted methods of air-conditioning, so they tell us. . . . A booklet entitled *"Coldjet—the Modern Truck Refrigerator"* illustrates and describes the system in full, and shows some *actual costs* of operation for typical installations. . . . Number 38 on our post-card brings a *free* copy of the booklet, promptly.

●

39. POWER-BRAKE HANDBOOK. . . . The title of this one is *"The Service Man's Vacuum Power-Brake Guide"*. . . . It's a 20-page booklet that aims to give the service man a concise and practical analysis of the problems involved in servicing vacuum power-brakes. . . . The Guide presents a comprehensive outline of the principles and requirements of vacuum power-brake operation. . . . Drawings and diagrams, together with complete service and trouble-shooting data comprise the principal text of this booklet. . . . It's *free*, on request. . . . Just mention No. 39 on our post-card if you want it.

●

40. TIRE SERVICE MANUAL. . . . A dandy, 32-page, 8½" x 11" data book, made up principally from data issued by the Rubber Manufacturers Association. . . . It carries many graphs and tables showing, among other things: *Effect of Temperature on Tread Mileage; Load and Inflation Data; Recommended Rim Sizes and Dual Spacings; Effects of Over-Inflation; How to Mount Tubes on Drop-Center Rims; Various Types of Truck Tire Failures and How to Avoid Them; How to Properly Match Duals; Data on Retreading and Recapping with Cost Figures*—and others. . . . This Tire Service Manual contains no advertising and is offered free with the compliments of one of the rubber manufacturers. . . . Number 40 brings a copy *promptly*, by mail.

Servicing the Generator

(*Continued from page* 33)

become clogged with dirt to such an extent that ventilation and consequently, generator performance, will be materially affected.

Do not clean the armature or fields in any degreasing tank, or in any substance which might dissolve or reduce the insulating properties of the armature and field insulation. Thoroughly clean all ball-bearings and repack them with ball-bearing grease of the specifications given previously.

If necessary, true up the commutator in a lathe and undercut the mica. In resoldering connections, use rosin flux solder. Never use an acid flux on electrical connections.

Neutral Point Adjustment—Some of the larger generators have adjustable main brush plates so that the neutral point setting may be made. In order to obtain normal generator operation, it is necessary that the correct relationship exist between the field coils and the brushes. If they are not correctly aligned—adjusted to the neutral point—there may be excessive arcing at the brushes, and some difficulty may be experienced in holding the voltage regulator setting. The neutral point is checked and adjusted as follows:

1. With the generator on the test bench, connect a jumper lead between the field terminal and the main armature terminal. The main armature terminal is the one normally connected to the armature terminal of the regulator.

2. Momentarily connect battery leads to the generator terminal and to the frame, or to the "opposite" terminals on insulated units. Be sure that the leads are connected correctly with respect to the polarity as found on the vehicle. The momentary flash of current into the generator which follows, assures you that the fields are correctly polarized with respect to the battery with which it will operate on the vehicle.

3. Remove the lead from the field terminal. Reconnect the battery (using but one cell to begin with) across the generator, observing again the proper polarity. The voltage to use in making this check is the minimum voltage which will cause the armature to rotate. Connect from cell to cell to increase voltage, or use the battery in series with a variable resistance.

4. The neutral point is the position of the brushes at which there is no tendency of the armature to rotate in either direction.

5. For best operation, the brushes should be set slightly ahead of neutral—ahead means in the direction of rotation. With the brushes set ahead, the armature will tend to rotate very slowly in the direction of the generator's normal driven rotation.

6. If the armature tends to rotate in the opposite direction, the brushes are behind neutral and should be adjusted. Be sure that the battery is correctly connected with respect to polarity, since reversing the connections will reverse the rotation.

7. To adjust, loosen the brush-plate locking-screws (on the commutator end frame) just enough to allow the brush plate to be shifted.

8. Shift brushes as necessary until the armature tends to rotate in the correct direction (see 5, above). Tighten brush-plate locking-screws after adjustment.

Locating Trouble—With low output, no output, or excessive output, it is necessary to make sure that the cause for the condition is in the generator and not in the regulator, before attempting to repair the generator. A quick check method of determining which unit is at fault under any of these conditions will be discussed in our next article, in an early issue of FLEET OWNER. In the meantime, we would like to cover the procedure to follow after the generator has been definitely found to be at fault.

No Output—With no output, check for sticking brushes, poor contact between brushes and commutator, and

"15,000 TO 20,000 MILES MORE

BETWEEN OVERHAULS, THANKS TO STEWART-WARNER MOTOR MILE TACHOMETERS!"

Arrow Rock Co., Los Angeles, Operates 30 Trucks and All Are Equipped with Stewart-Warner Tachometers

"We operate 30 pieces of equipment, powered by Ford V-8's as shown in the enclosed photographs. We equipped these trucks with Stewart-Warner tachometers when we purchased them.

"From our experience, the tachometers *are giving us between 15,000 and 20,000 miles more between overhauls* on this equipment . . . than it is possible to get without using a tachometer. We attribute this to the fact that the tachometer shows the driver what the engine is doing and is marked to tell him when he has reached the top speed and when to shift, thus insuring that our engines are operating properly at all times."

ARROW ROCK COMPANY
By A. W. Beaucaire

●

Longer service between overhauls—elimination of guesswork for drivers—increased gasoline mileage—*reduction of maintenance costs through accurate determination of service intervals*—these and many other economies are reported by users of Stewart-Warner Motor Mile Tachometers. Mail the coupon for complete details.

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I am operating .... trucks. Please tell me all about the Stewart-Warner Motor Mile Tachometer.

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Teamed up they do a *better job!*

So do Carburetion and Governing

The finest type of governed speed control, engineered, as part and parcel of the finest type of truck carburetor—that's the new—

ZENITH GOV·U·RETOR

A PERFECTLY matched and balanced unit with a single throttle. Here's what it does: provides a more efficient flow of fuel with minimum disturbance of manifold distribution; checks cheating by throttle manipulation; eliminates many original parts as well as costly replacements required by two unmatched units; reduces surging; provides more constant speeds on grades and hills, smooth positive governing action on the level.

The Zenith GOV-U-RETOR overcomes practically all the previous drawbacks of separate installations. It's cutting operating costs right now in many fleets. Downdraft and updraft types to fit most popular engines. For complete information—

Write! ZENITH CARBURETOR DIVISION
BENDIX AVIATION CORPORATION
696 HART AVENUE DETROIT, MICHIGAN

broken leads. Use test-points to check further as follows:

1. Raise the grounded brush and insulate it from the commutator with cardboard. Check for ground with test-points between main brush lead or terminal and frame. If the generator is of the type having the field grounded internally, disconnect the field ground lead before making this check. If a ground is indicated, raise and insulate all brushes and check in turn the insulated brush holders, commutator, and fields to locate the ground.

2. If no ground shows, check the field for open circuit.

3. If the field is not open, check for shorts in the field by checking the field current draw. Use a battery of the proper voltage and an ammeter, connected in series with the field. Be careful in making this check, since a shorted field may draw a very high current.

4. If there are any burned commutator bars, it is likely that there are open circuits in the armature. Check the lead connections at the riser bars of the commutator bars which are burned and resolder them and turn down the commutator—or if necessary, replace the armature.

5. If the trouble has not yet been located, check the armature on a growler for short circuit, as shown in one of the illustrations.

Excessive Output—Excessive output from a shunt generator, definitely *not* from any fault of the regulator, is probably due to a grounded field circuit. Use test-points to determine definitely if the field is grounded. The field may be grounded at the pole-shoes, due to their cutting through the field winding insulation, at the field leads or at the field terminal.

Excessive output from a third-brush generator which does not have external regulation will usually be found to be due to an excessively high third-brush setting. To correct, readjust the third-brush.

Unsteady or Low Output—When the generator produces an unsteady or a low output:

1. Check the drive belt and the drive belt tension, since belt slippage may produce this condition.

2. Check the brush spring tension and check the brushes for sticking.

3. Inspect the commutator for roughness, grease and dirt, dirt or brush dust in the commutator slots, high-mica, out-of-round, and burned bars. Burned bars indicate an open circuit condition as explained under *No Output*, point 4 above.

Noisy Generator—Noise may be caused by a loose mounting, drive pulley or gear. Worn or dirty bearings may cause noise and require cleaning and relubrication or, if worn excessively, replacement. Improperly seated brushes will be noisy. Seat all brushes by using a bedding or brush-seating stone as explained above.

Installation Caution—After the generator has been reassembled and reinstalled on the vehicle, connect the battery momentarily, between the generator armature terminal and the battery or ammeter terminal of the relay or regulator (shorting around the relay or regulator) with a jumper lead, *before starting the engine*. This allows a quick surge of electricity to flow into the generator, which polarizes the generator correctly with respect to the battery. Only a momentary completion of the circuit is necessary.

Never operate a generator on open circuit, since this may allow it to build up sufficient voltage to damage the generator windings. Whenever the engine is run the generator lead should always be connected to the battery. If, for any reason it is necessary to run the engine without the battery connected, the lead from the generator should be grounded on the frame. This will ground the generator so that it will not burn itself up.

The next article in this series on electrical maintenance will cover the subject of Voltage Regulation. Watch for it!

Ruppert's New Fleet

(*Continued from page* 36)

protect the aluminum kegs which are hauled in these particular trucks, wood-filled steel channels have been incorporated into the bodies.

The delivery system of the Ruppert Brewery has for many years been entirely motorized, with trucks of varying capacities and ages. The present development spells the complete modernization of this brewery's transportation facilities. The last brewery horse was displaced by motive power at Ruppert's, before prohibition went into effect. The last "pensioner" horse died in retirement four years ago.

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The New Trailmobile

(*Continued from page* 40)

menting has gone into the development of the new "Outside-Frame" Trailmobile. This has been followed by many more months of actual tests under all kinds of operating conditions in the field, to prove-out the dependability of the job in service. Trailmobile officials state that a number of these "Outside-Frame" jobs have been in actual use for some time by several large fleet operators in the eastern section of the United States, before public offering of the product was decided upon.

In order to complete our editorial description of this new product, let us borrow a few paragraphs from advance information, made public just prior to our going to press with this issue. We quote:

"The outside-frame, or side-wall, is made up of a deep 'beam', corrugated for strength, and being as deep as the entire body. It features depth for strength and lightness, columns for stiffness and side strength, and acts as both a tension and compression member. The load is supported on cross-bolsters, 8 inches deep, which are in turn attached to and supported by the outside-frame. The pulling load is applied at the king-pin. From this point it is transferred by the fifth-wheel plate, diagonal members and cross-members to the bottom rail of the outside-frame. In the same manner, the braking load is applied through the radius-rods, to the spring-hangers, then to the sub-frame, and then to the outside-frame by means of the diagonal struts and cross-members. The lower rail of the outside-frame performs a triple function, acting as the tension member, as a rub-rail or bumper-rail in the event of collision, and also to absorb pulling and braking loads. The roof is a high-strength beam, constructed similar to the sides, the roof-bows becoming the 'columns' to hold the ribbed sheets in alignment, supporting the sides and relieving them from strains. The floor is also a large beam, composed of outer rails, cross-bolsters and floor-boards, all bolted and welded together to absorb shocks and maintain alignment of the unit.

"The engineering of this trailer, reduced to laymen's language, consists of six separate members—front, rear, roof, floor and two sides. Each member is a unit in itself, capable of carrying one or more types of load. When all six of them are put together in a rigid and permanent manner, they form a structure capable of carrying all conceivable types of load, without duplication of structural members and resulting in the lightest possible weight with the metals utilized."

The new "Outside-Frame" Trailmobile was launched to the entire Trailmobile sales organization at a series of sales meetings, the first held in Cincinnati at the company's main office, under the direction of L. E. Craig, general sales manager. On June 30 the midwestern zone learned the entire story from C. H. Kinney, zone manager in Chicago.

July 5th opened a meeting of the eastern zone at New York City, which was directed by William R. Cubbins, Jr., eastern zone manager, and attended by A. J. Woltering, executive

(*Please turn to page* 56)

FOR THOSE Door to Door DELIVERIES
These attractive door-to-door delivery cars, built by Automatic Transportation Co., Chicago, offer perfect evidence of the superiority and adaptability of Eberhard hardware for such service.
Rear Doors: No. 565694 SLAMTITE Medium-Duty Door Lock, with finger-hook latch and tapered bolts that pull doors tight when slammed.
Side Doors: Special application of upper section of No. 565698 Slam-Action Lock for folding doors. Eberhard flat construction is a desirable feature of this application.
For such small jobs or for the largest truck bodies, you will find just the material you need in the Eberhard line. See your dealer or write direct to
EBERHARD MANUFACTURING CO.
Division of the Eastern Malleable Iron Co.
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EBERHARD
AUTOMOTIVE HARDWARE
Consult the LATEST EBERHARD CATALOG
E

New Cement Body is Self-Unloading

A NEW type body for hauling bulk cement, with capacity of ninety barrels, adapted for trucks, semi-trailers and four-wheel trailers, is announced by the Universal Trailer Company, 1832 W. Fort street, Detroit, Mich.

Of all-steel construction, the body weighs, including motor and screws, 4,300 pounds. Mounted on tandem axles, this equipment is said by the manufacturer to comply with all road weight laws.

As pointed out by Harry H. DeWitt, president, unloading of cement is accomplished by spiral screws operated by an air-cooled motor mounted at the front end of body and contained within the lateral limits of body. Cement is discharged dust-free through a chute at the rear of body at a maximum rate of approximately five barrels per minute. The dustless discharge is said to be a definite advantage. The body is loaded through two manholes in the roof.

Standard equipment includes Timken axles, Simplex 5,000-mile lubricators, Bendix-Westinghouse air-brakes, etc. The design is such as to give complete maneuverability and so constructed that the operator has complete rear view of all following traffic.

●

Vehicles for 1 Out of 4 in U. S.

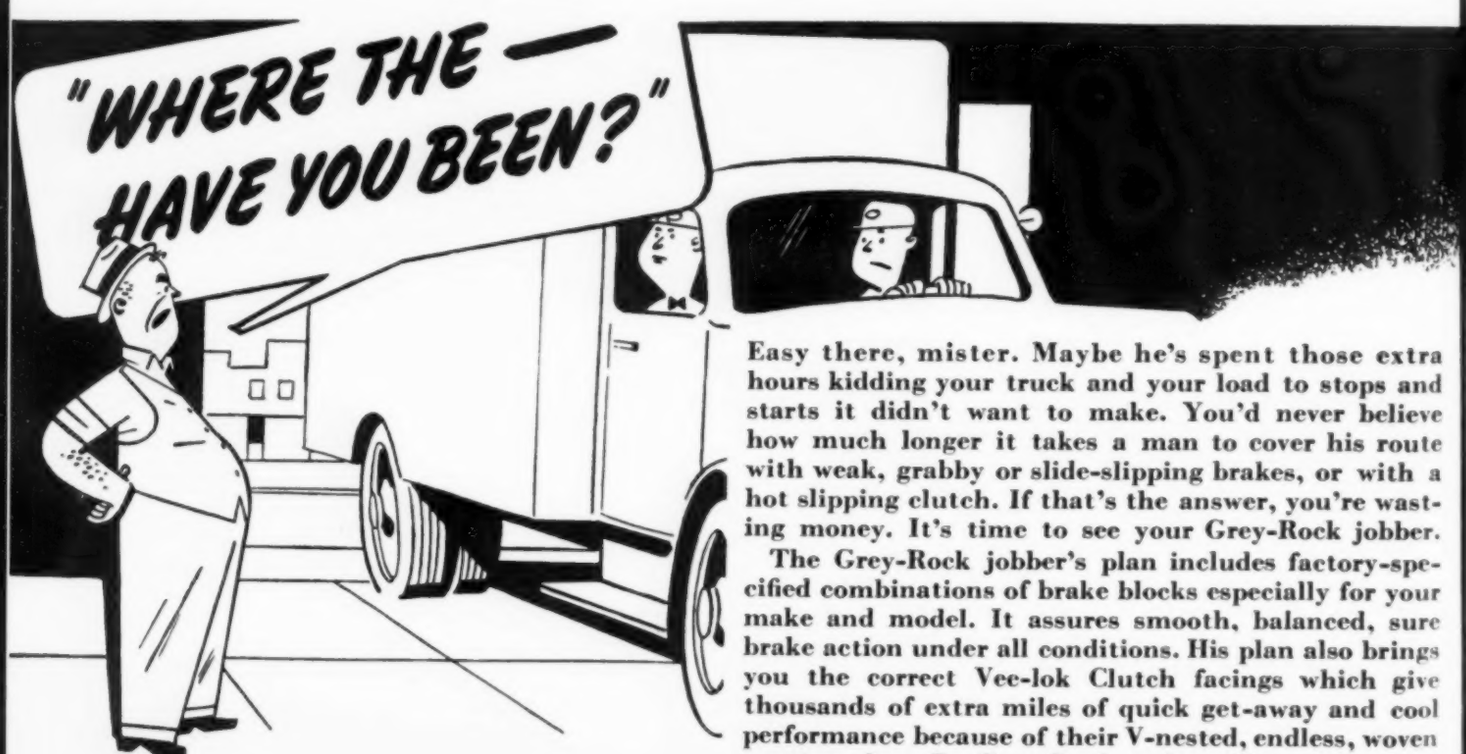
THERE are 45,422,411 motor vehicles in the entire world and 68.5 per cent or 31,104,118 of them are in the United States and territories, according to the Department of Commerce. There is one automobile for every four persons in the U. S. while the world ratio is one to 47 persons.

Motor vehicle registrations present some interesting comparisons: Spitzbergen has two vehicles—a passenger car and a truck. Even in Bermuda, where cars are prohibited, there are 68 registered—two cars, seven buses, and 59 trucks.

New Zealand has a motor vehicle for every six persons, while Australia and Canada have one for every eight persons. In contrast, China totals 6,288 persons per car.

Outside of the U. S., the Soviet Republic has the greatest truck ownership—there being 699,000 registered. In the U. S. and her territories, there are 4,348,506 motor trucks.

Over a ten-year period, motor vehicle operation has increased 26.5 per cent, or almost ten million vehicles; an improvement of 16.5 per cent occurred in the U. S. and 57 per cent in other countries of the world.



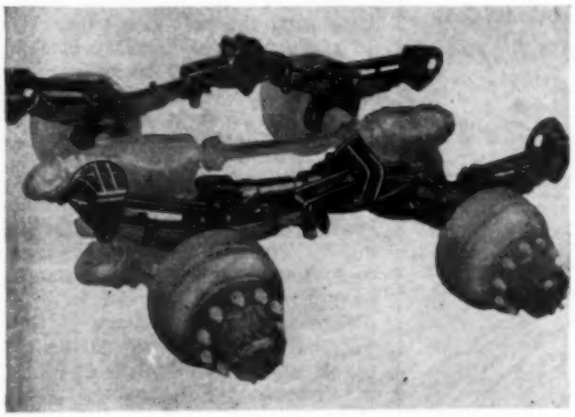
Easy there, mister. Maybe he's spent those extra hours kidding your truck and your load to stops and starts it didn't want to make. You'd never believe how much longer it takes a man to cover his route with weak, grabby or slide-slipping brakes, or with a hot slipping clutch. If that's the answer, you're wasting money. It's time to see your Grey-Rock jobber.

The Grey-Rock jobber's plan includes factory-specified combinations of brake blocks especially for your make and model. It assures smooth, balanced, sure brake action under all conditions. His plan also brings you the correct Vee-lok Clutch facings which give thousands of extra miles of quick get-away and cool performance because of their V-nested, endless, woven construction. Go Grey-Rock and you'll quit cursing.

Grey-Rock

New Third Axle and Spring Suspension

UTILITY Trailer Manufacturing Co., Los Angeles, Calif., announces new designs in third axles, spring suspension and torque-arm assembly design, illustrated here.



A new model 6-wheel attachment (third axle) combines the advantages of a spring rocker-arm for easy riding, the strength and rigidity of a cast-steel rocker-arm to take care of side thrusts, and the simplicity and flexibility of the stub-axle (knee action) suspension.

A new spring suspension and torque-arm assembly for use with conventional dual-drive axles (illustrated) is also announced. The advantages of this unit are said to be light weight and improved provision for taking care of the tendency to chatter, resulting from driving and braking torque.

If more information is wanted, address H. C. Bennett, c/o Utility Trailer Mfg. Co., P. O. Box 1407, Los Angeles, Calif. . . . You'll mention FLEET OWNER, won't you?

●

Portable 'Phone Booths Now on Trucks

IN New York City a "Telemobile," a specially built motor truck with all telephone facilities, has been constructed to be used at points to give phone service where unusual crowds gather on special occasions.

It was tried out recently at a big outdoor sporting event and did a rushing business. It is usable wherever overhead or underground phone cables are in the vicinity.

●

Trade Barrier Stops "Coronado"

THE FIRST traveller in the great Southwest was "Coronado," whose memory is being celebrated this year in New Mexico with a proper historical pageant.

To give proper publicity to the celebration, a road show depicting the epochal trek, went into Texas but the paraphernalia weighed 27,000 pounds and the Texas load limit is 7,000 pounds.

All the equipment could have been carried nicely in two big trucks, but in Texas it meant four trucks; so "Coronado" had to give up his highway travels and go by rail in Texas.

Grey-Rock Rivet-On Blocks—two types used alone or in combination to balance brakes on light trucks and buses. Grey-Rock Blocks (orange edges) medium friction, and HiWaY BloX (black edges) higher friction.

Grey-Rock Bolt-On Blocks for heavy truck and bus operations. Made in 5 types (G-K-R-N-Q) with varying characteristics, factory combined in sets for specific makes and models.

Grey-Rock Recommendation Guide, specifying combinations which balance any brake system under any load or operating condition, and providing all service information.

Grey-Rock Vee-lok Clutch Facing, a revolutionary V-nested endless spiral construction, setting new heavy-duty service standards.

BALANCED TRUCK BLOCKS

UNITED STATES ASBESTOS DIVISION
of Raybestos-Manhattan, Inc., MANHEIM, PA.
BRAKE LININGS • CLUTCH FACINGS • FAN BELTS
HOSE • PACKINGS • RELINING EQUIPMENT

● **Autopulse is sold and serviced by the best houses in the trade, is used by leading cost-smart operators, and has been in the field over 10 years . . . *you don't have to guess.***

. . . that's why

you need AUTOPULSE

You need no longer tolerate expensive road delays caused by vapor lock. Your answer is Autopulse, which you mount in a cool spot *away from the motor.* It *pushes* fuel instead of relying on suction. Vapor lock disappears, because—

THE ONE SURE REMEDY IS A COOL LOCATION

Rid yourself of engine-mounted pumps and at the same time save money by following the lead of cost-smart fleets who are accepting the terms of our *Change-Over Program.* Standardize on Autopulse . . . eliminate trouble and be money ahead!

AUTOPULSE CORP., 2821 Brooklyn Avenue, Detroit, Michigan

AUTOPULSE
ELECTRIC FUEL PUMP

vice-president; R. B. George, manager of fleet account sales; J. J. Black, chief engineer; and Ross H. Wilson, advertising and sales promotion director.

At these meetings the complete story of this new light-weight semi-trailer was given to the entire sales organization and they were presented with the advertising and promotion program which has already been launched and extends over the balance of this year and well into 1941.

New literature is now ready, completely illustrating, describing and pricing the "Outside-Frame" Trailmobile semi-trailer. . . . For free copy address Trailer Company of America, Cincinnati, Ohio, mentioning this announcement in FLEET OWNER, if you please.

●

County Garage

(*Continued from page* 45)

routed to the county auditor, where the revolving fund is replenished through bookkeeping entries.

On the itemized statement, certain extensions are at mutually-agreed-upon rates higher than cost. This is for the purpose of taking up the overhead costs of the garage. Gasoline, for instance, is charged to the various departments at the rate of 15 cents per gallon, when the actual cost recently was only 12.67 cents. Oil is charged at the rate of 20 cents per quart and the cost is between 17 and 18 cents a quart. Grease is charged at the rate of 20 cents per pound while a differential of 10 cents per hour is added to labor costs.

All materials and accessories are billed through at cost, regardless of whether the item comes from stock or is requisitioned directly from a supply house. There is a storage charge for cars, trucks, etc., if they are in the garage or in the yard after nine o'clock at night. Storage in the garage is at the rate of 20 cents per night and in the yard at the rate of 10 cents per night.

With billings at the aforementioned rates, the garage just about breaks even year after year. At the end of the fiscal year 1937-38, the garage was $67.34 in the red, as it had paid out that much more money than it had received in transfers from departments.

County cars operating out of the garage provide transportation for various officials and departments covering a wide range of functions and thus making quite diverse demands on the cars themselves. The Sheriff has to have heavier, speedy cars; some officials need roomy cars, while others are more than happy with a small, light car. A list of the departments served follows: Welfare Department, Sheriff's Department, Forestry Department, Road Department, Health Department, Horticultural Department, Agricultural Extension Service, Garage—Stand-by Car, District Attorney, Sealer of Weights and Measures, Coroner, and Probation Officer.

The Sheriff's Department may be cited as a sample of the type of performance that is being obtained from county cars in service in Riverside County. These cars are subject to long and hard usage; they must be kept up to top performance; there are a number of extra pieces of equipment and accessories that must be kept in proper adjustment and working order. The Sheriff in Riverside has a fleet of twelve cars and a patrol wagon, and for the past three years low mileage costs have been shaved down to still lower figures, as follows:

Cost per mile of Sheriff's fleet
1935 .....2.8 cents
1936 .....2.5 cents
1937 .....2.4 cents

The idea of utility cars for the county developed as the result of continued requests for transportation, with no cars available. Much of the necessary transportation for county

business was done in private cars; a county ordinance specifies 5 cents per mile as the rate that shall be paid in such cases. On some occasions the county official or employee did not have a private car, or for some reason he could not use his own car; thus the proposition of loaning these people a utility car arose. As compensation, an amount equivalent to 5 cents per mile would be transferred from the department requiring the service to the revolving fund of the garage.

This system was started with one utility car in 1934. This was a light car, and it soon became apparent that the garage and the county were making money at the regular rate of 5 cents per mile. The car earned enough to pay for itself in eighteen months, and there was still a trade-in value of about $400 when it was replaced. This experience led to further planning for utility cars. The idea developed over a period of time, and surveys were made of county garages in other counties. Finally, a large body of convincing evidence was assembled, and in 1937 the Supervisors were asked to make an appropriation for eight utility cars. Action was taken promptly, so, in August, 1937, the first four were bought and put into operation. Three more were purchased in November, and the last of the eight in March, 1938. By the end of the fiscal year, 1937-38, the garage had 72 months of experience on the eight cars. They had "earned" $4,619 net, except overhead. If overhead and other charges are included, the cost per mile figures out very closely to 3c flat, per mile.

A proposal was made on the basis of this experience to reduce the charge per mile from 5c to 3½c per mile. At the same time, it was pointed out that this economy could be maintained only if the cars were driven some sixteen thousand miles or more per year. At the rate mileage was being put on the eight utility cars, it was clear that they would travel *many more* than sixteen thousand miles in the new fiscal year.

At the same time the idea was advanced to increase the utility car fleet. Much mileage was still being piled up by private cars at the rate of 5 cents per mile, so why not have the traveling done in a county car at 3½ cents per mile? The supervisors have allowed money to buy three or four more utility cars as the need arises. At the same time a resolution was passed, instructing county officials and employees to call upon the garage *first*, if transportation is needed, and to use a private car *only* as a last resort.

This system promises to save the county many thousands of dollars in the future, and at the same time puts transportation on a business-like and controlled basis, making it possible for the county to cash in on modern procedures and good management.

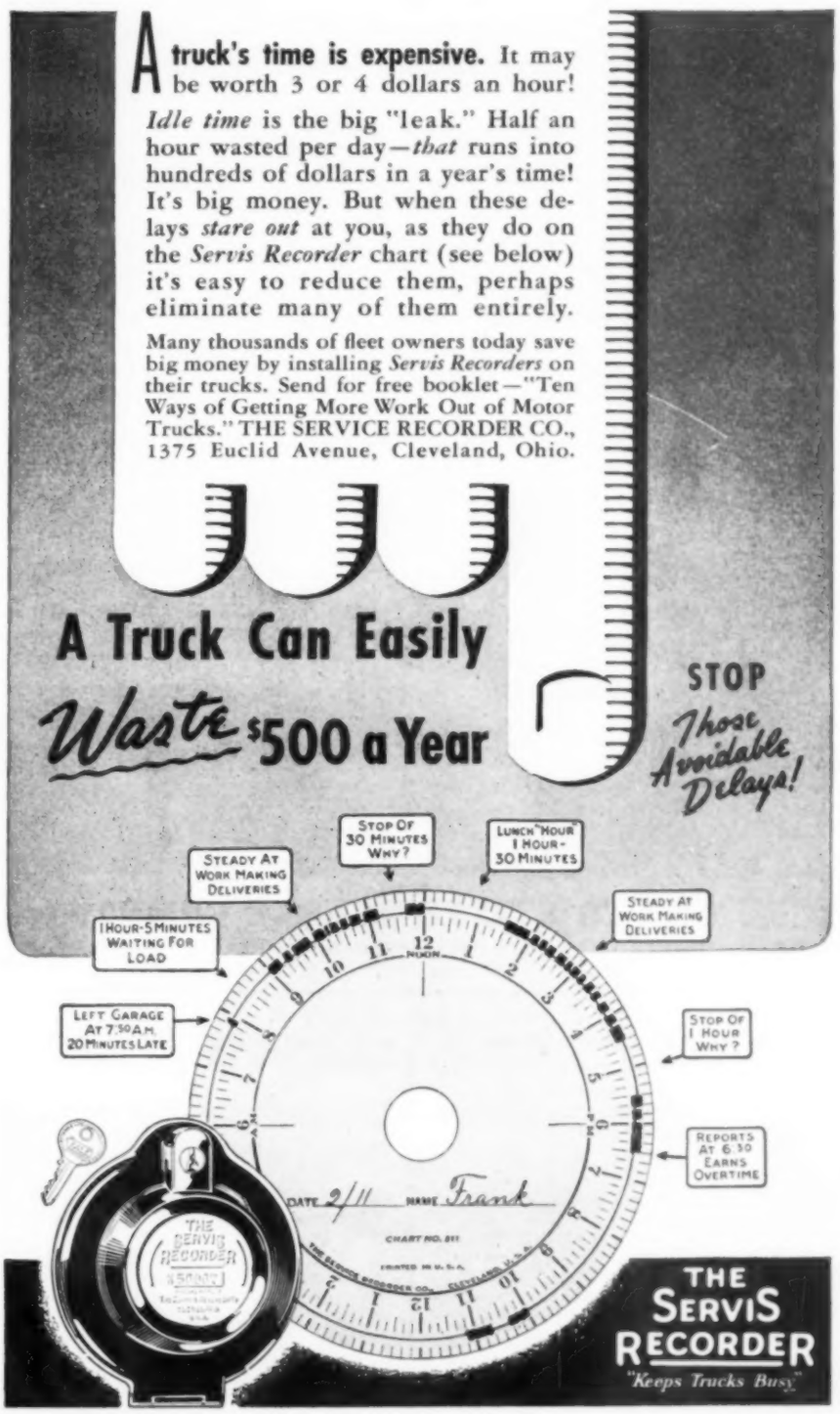
G. M. Fleet Sales Enjoys Peak Volume

THE Fleet Sales Division of General Motors Corp., headed by Felix Doran, have to their credit the largest volume of business per month on record since its organization, it was announced last month. . . . In addition, more individual Fleet-User accounts have been signed on the General Motors National Fleet-Users Agreement than were in effect at any one time during the entire previous 13 years of the Fleet Sales Division's operation, it was added. . . . The Fleet User accounts, number 732, have a potential of approximately 315,000 units, and include operations in almost every vocational classification in the United States.

●

Bosch Elects Two New Vice-Presidents

AMERICAN Bosch Corporation, Springfield, Mass., announces the appointment of two new officers. . . . Edward H. Moll, who has been with the corporation since 1938—currently holding the position of factory manager, has been made vice-president in charge of production. . . . Foster N. Perry, who has been with the corporation since 1924—previously in charge of the New York and Chicago branch offices, has been made vice-president in charge of sales.


A truck's time is expensive. It may be worth 3 or 4 dollars an hour!
Idle time is the big "leak." Half an hour wasted per day—that runs into hundreds of dollars in a year's time! It's big money. But when these delays stare out at you, as they do on the Servis Recorder chart (see below) it's easy to reduce them, perhaps eliminate many of them entirely.
Many thousands of fleet owners today save big money by installing Servis Recorders on their trucks. Send for free booklet—"Ten Ways of Getting More Work Out of Motor Trucks." THE SERVICE RECORDER CO., 1375 Euclid Avenue, Cleveland, Ohio.
A Truck Can Easily Waste $500 a Year
STOP Those Avoidable Delays!
STOP OF 30 MINUTES WHY?
LUNCH "HOUR" 1 HOUR-30 MINUTES
STEADY AT WORK MAKING DELIVERIES
STEADY AT WORK MAKING DELIVERIES
1 HOUR-5 MINUTES WAITING FOR LOAD
LEFT GARAGE AT 7:30 A.M. 20 MINUTES LATE
STOP OF 1 HOUR WHY?
REPORTS AT 6:30 EARNS OVERTIME
DATE 2/11 NAME Frank
CHART NO. 811
THE SERVIS RECORDER
THE SERVIS RECORDER "Keeps Trucks Busy"

S-T-R-E-T-C-H

your seating dollars

with Genuine **U. S. NAUGAHYDE*** *upholstery*

Here's one leatherette upholstery that's made for the "long pull." Not just modest first cost, but years of upkeep savings.

Naugahyde is a wear-defying combination—ground GENUINE LEATHER for toughness, rubber for non-cracking pliancy. *Permanently* pliant because there's nothing to dry out and cause cracking and peeling. And lastingly resistant to abrasion because the exclusive "U.S." tempering process replaces perishable "finishing" coats.

Naugahyde's "springy" rubber content keeps it *smooth*—even over deep cushioning. It doesn't "bag" or grow permanently out of shape.

Naugahyde in any color is stain-resistant, easily cleanable. Write today for swatches.

* REG. U. S. PAT. OFF.

Genuine U. S. NAUGAHYDE UPHOLSTERY

AN UPKEEP-SAVING COMBINATION

Marengo County, Alabama, school buses have BLUE BIRD bodies and seats, INTERNATIONAL chassis and NAUGAHYDE upholstery

UNITED STATES RUBBER COMPANY

COATED FABRICS DIVISION ★ MISHAWAKA, INDIANA

Pines Winterfront Sold to Sheller

PURCHASE by Sheller Manufacturing Co. of the business of Pines Winterfront Company, manufacturer of radiator shutters for trucks, tractors and passenger cars, was announced by M. M. Burgess, president of Sheller. . . . Pines Winterfront stockholders recently voted to sell all assets because of "continuing operation losses and exhaustion of working capital." . . . Simultaneously Mr. Burgess announced acquisition by Sheller of all outstanding stock of the Hardy Manufacturing Corp., Pendleton, Ind., which will be operated as a wholly-owned subsidiary. . . . The Hardy company manufactures metal stampings, particularly for the radio industry.

●

"Motoscope" Maker Ready to Serve Again

OWNERS of Stromberg "Motoscopes" and other automotive testing instruments made by the company bearing that name, may now receive service and repair parts from E. A. Stromberg Company, Inc., 2139 W. North Ave., Chicago, Ill. . . . Mr. Stromberg is the former president of the old company. . . . The principal product is motor analyzers, and they are fully prepared to render service on old units in the field that need it, in addition to supplying new ones.

Drivers' Safety Code

(*Continued from page* 20)

consumed totalled 1,072. The truck test run was the third Safe Driving Road Test conducted by Chevrolet.

In view of Hartz' perfect record during the more than 101,000 miles he drove the test unit, his views on safe driving may be taken as authoritative and consistent.

●

Bowers Joins Wausau Piston Ring

CHAS. E. Bowers, formerly representative of The Perfect Circle Company in New York, and more recently eastern manager for Hastings Mfg. Co., has recently joined the sales

staff of the Wausau Motor Parts Company, Wausau, Wis., makers of *"Oil-Savr"* and other piston rings. . . . The appointment of Mr. Bowers is in line with the new expansion policy of this company, which now boasts 51 manufacturers using Wausau piston rings as standard equipment. . . . Our best to you, Mr. Bowers!

●

Reo Truck Export Business Is Good

SHIPMENTS of over $100,000 worth of Reo trucks have been made overseas since export production started June 17, according to an announcement by John T. Clark, export manager, Reo Motors, Inc., Lansing, Mich. . . . Eighty-five percent of orders received to date, Clark pointed out, are from countries south of the equator, including Australia, New Zealand, Brazil, Chile, Uruguay, South Africa and Colombia. Major shipments have also been made to China, Hawaii, and Portugal. . . . While original shipments were largely for floor samples, repeat orders in considerable volume are now said to be coming in for models ranging in gross rated capacities from 13,000 pounds to 22,000 pounds.

●

Lintern to Sell Sanders Direct

NEW models of air and electrically-operated traction Sanders are now available direct from the manufacturer, at a considerable saving in cost, announces the Lintern Corporation, Cleveland, Ohio. . . . The manufacturer advises that the new models include a patented weather-proof sand nozzle, and that the compact, rugged valve mechanism will handle any commercial grade of sand without leakage. . . . Design protects against moisture collection, assuring protective traction in all weathers.

Studebaker June Sales Reach High Levels

DOMESTIC retail deliveries of Studebaker cars and trucks in June were the largest for the month since 1925, while factory sales to distributors and dealers exceeded any June in twelve years, the Studebaker Corporation announced recently. They further reported that deliveries at retail in June were greater than those of any month since August, 1928. . . . Factory sales in June of 11,528 passenger-cars and trucks compared with 9,995 in May and 11,122 in June 1939. . . . For the first half of 1940, factory sales amounted to 61,788 units, the largest for the period since 1928 and comparing with 53,176 in the corresponding peroid last year. . . . Retail deliveries in June totalled 11,164 against 10,328 in May and 9,106 in June 1939. For the first six months of 1940, retail deliveries totalled 53,999 and were the largest for the period since 1928. In the first half of 1939, they amounted to 37,993.

●

Micromatic Hone in New Factory

THE entire organization of the Micromatic Hone Corporation, manufacturers of honing machine tools, now occupies larger quarters in a new location at 1345 E. Milwaukee Avenue, Detroit, Michigan. . . . This expansion represents an increase of approximately 75% in total number of employees and over 100% increase in space occupied during the last eighteen months. . . . According to Kirke W. Connor, president, the expansion has resulted more from normal growth and new developments, than because of increased rearmament volume.

●

Airco Announces Appointments

HOWARD R. SALISBURY has been appointed manager of the Air Reduction Company at Philadelphia. . . . Mr. Salisbury has been connected with Airco for 15 years. He was manager of Airco at Bettendorf, Iowa, for 2 years and assistant manager at Philadelphia for the past 6 years. . . . He is also a past chairman of the Philadelphia Section of the American Welding Society. He succeeds William W. Barnes, retired. . . . H. B. Seydel, formerly assistant sales manager of the New York District, has been appointed assistant manager at Philadelphia.

●

Better Highways Mean More Winter Vegetables

IMPROVED highway transportation facilities and added efficiency at terminals are credited by the U. S. Department of Agriculture with much of the tremendous increase in acreage of winter vegetables. . . . "The use of the high-speed motor truck has effected savings to both producers and consumers by widening the distribution of winter vegetables to smaller towns and cities," says the Department's bulletin. . . . "Twenty years ago—in 1919—nine Southern states had approximately 232,000 acres in vegetables. These same states in 1939 had about 1,100,000 acres. . . . "

New Welding Chart Offered Free

FROM a chart issued by The Lincoln Electric Company, Cleveland, Ohio, it would appear that there is now available an arc-welding electrode for welding practically every conceivable job. . . . The chart, in attractive design and color, gives uses, physical characteristics, etc., as well as currents and procedures for some thirty-six different electrodes. . . . The chart will be of value to shop superintendents using welding. It will also be of value to designing engineers, since physical characteristics of weld metals are given. . . . It is available by writing to The Lincoln Electric Company, Cleveland, Ohio, on your business letterhead, mentioning FLEET OWNER, please.

●

New Chevrolet Service Manual

CHEVROLET Motor Division of General Motors announces its new 1940 service manuals, which have by now been distributed to all of its dealers and also to 40,000 independent garage men and fleet operators. . . . The new manual covers every phase of Chevrolet service and repair work. It contains 282 pages, explaining by picture and description, every process involved in scientific servicing of Chevrolet cars.

Easy Quiz

What tapered roller bearing has twice the life of others?

TYSON CAGELESS

What tapered roller bearing has one-third more capacity, size for size?

TYSON CAGELESS

What tapered roller bearing has maximum rigidity?

TYSON CAGELESS

What tapered roller bearing can not have a cage-failure, ever?

TYSON CAGELESS

● The answer to your bearing problem is Tyson Cageless—the all-rolls bearing that whips all the tough jobs.

Cageless FOR HARD SERVICE *Cage-type* FOR REGULAR SERVICE

Tyson

TYSON ROLLER BEARING CORPORATION, MASSILLON, OHIO

These are typical high-spots in reports from users of Magnus Met-affin who have found this unique material for sludge control and improved performance to be a profitable investment for their truck fleets.

GET YOUR COPY

of "Truck and Bus Performance Data". It shows how users of Met-affin and other Magnus Materials for motor and chassis cleaning, body washing, cold tank cleaning of parts, etc., have cut their cleaning costs and improved quality of results.

Ask us to send you a copy. It's full of usable ideas and worthwhile methods.

MAGNUS CHEMICAL COMPANY

Manufacturers of Cleaning Materials, Industrial Soaps, Metallic Soaps, Sulfonated Oils, Emulsifying Agents and Metal Working Lubricants

36 South Avenue — Garwood, N. J.

MAGNUS CLEANERS

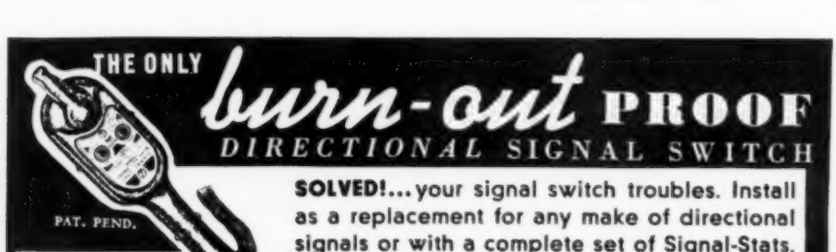
Trailmobile Announces Personnel Changes

PERSONNEL changes announced by The Trailer Company of America, Cincinnati, Ohio, include the following: The appointment of William R. Cubbins, Jr. as eastern zone manager with offices in New York City. Formerly with Bendix in Fleet Sales, "Bob" Cubbins is well known to operators and dealers in the eastern part of the United States. . . . R. B. George, for the past several years New York sales manager for Trailmobile, has been placed in charge of fleet sales for the company. . . . Leo A. Santry has been appointed New York branch manager of Trailmobile, with offices at Long Island City. "Lee" Santry's long and varied experience in transportation places him in an excellent position as counselor to industries and operations on all problems involving highway freight transportation.

●

Mack Gets 31-bus Order for Distant Points

MACK TRUCKS, Inc., announces receipt of an order for 31 new Diesel buses for export. . . . These are of the conventional type and will see service in far-distant countries. . . . Fifteen of them go to Siam, Asia; ten to Argentine; the balance will go to Portugese East Africa. . . . The buses are of 37 and 43-passenger capacity, and their use will mark a definite step forward in the transit industry outside of the United States.


THE ONLY
burn-out PROOF
DIRECTIONAL SIGNAL SWITCH
PAT. PEND.
SOLVED!... your signal switch troubles. Install as a replacement for any make of directional signals or with a complete set of Signal-Stats. Ask your jobber for further information or write
Ask your dealer or write to us for literature
Unconditionally GUARANTEED!
SIGNAL-STAT CORPORATION
59-79 PEARL STREET
BROOKLYN, N. Y.

G.M. Introduces New Truck Cooling Unit

GENERAL Motors officials recently announced the addition of a small condensing unit for refrigerated trucks to the Frigidaire line of mobile refrigeration equipment. . . . The new job increases to four, the various models of this type of unit now available, in sizes from ½ to 1½ h.p. inclusive. . . . Because of the increased interest in equipping smaller refrigerated bodies, the new outfit is a ½ h.p. plant, especially designed to meet the new demand. It uses a 2-cylinder, slow-speed, reciprocating type compressor, with a dual-voltage motor.

●

Ouellette Becomes Dodge Supervisor

THE appointment of Louis J. Ouellette to the post of sales supervisor of the Dodge organization is announced by vice-president Forest H. Akers. . . . The new sales supervisor has been on the Dodge executive staff for a number of years during the past eight of which he functioned as executive assistant. Prior to that period Mr. Ouellette was assistant director of Dodge advertising. . . . Mr. Ouellette's latest advancement is into a new executive sales post in which he shares responsibilities with Dodge sales supervisor, D. T. Stanton.

WAUSAU Oil-Savr

The Free-Running Ring with the Safety Center Unit

FREE SAMPLE RING

Write

WAUSAU MOTOR PARTS COMPANY
1600 HARRISON BLVD.,
WAUSAU, WIS.

FOR— AUTOMOBILES TRUCKS TRAILERS AND BUSES

★

THE TIMKEN ROLLER BEARING CO.
CANTON, OHIO

WAUKESHA
Multi-Fuel
ENGINES

DIESEL OIL
GASOLINE
BUTANE

ALL LIQUID OR GASEOUS FUELS

Trucks Paid 29% of State Vehicle Fees

MOTOR trucks in 1939 paid 29.2 per cent of the total motor vehicle registration fees collected by the 48 states, according to satistics compiled by the U. S. Public Roads Administration. Out of $342,997,000 collected in registration fees by the states, approximately $99,000,000 represented fees on trucks. In numbers, however, trucks constituted less than one-seventh of the total motor vehicles operating on the highways.

Special additional fees on commercial carrier trucks, not included in the registration fees, amounted to approximately $25,000,000 in 1939. Truck operators also contributed a substantial part of the $80,000,000 collected by the states in license and miscellaneous fees.

Gasoline taxes accruing to the federal and state governments from trucks last year amounted to $270,000,000, according to estimates made by the Automobile Manufacturers Association, or more than one-quarter of the total gasoline taxes collected during the year. The association estimates that in 1939 trucks provided a total tax revenue of $430,826,000 to the state and federal governments.

•

Synthetic Rubbers Make U. S. Independent

BUNA N, Buna S, Ameripol, Butyl, Neoprene, Thiokol, Koroseal, Chlorex, Vinyon—these comprise only a limited roster of the successes of American scientists in devising methods of utilizing home-produced raw materials to make synthetic rubber and rubber-like materials.

Utilizing petroleum, natural gas, coal, limestone, and air, America in 1940 appears to be approaching both independence from foreign sources for rubber, one of its most necessary raw materials, and the assurance that whenever a declining supply, or economics require, the change-over rapidly can be made.

For the mass-production products, tires and inner tubes, the synthetic rubbers which use petroleum as a raw-material base seem to offer the lowest-cost, large-quantity production possibilities. These petroleum-base rubbers, the two bunas, ameripol, and butyl, all have been reported as commercially practicable in this country since the beginning of 1940.

The other synthetic rubbers, most of which have been marketed for a number of years, usually start with natural gas or coal. So far they have been substantially higher in price than natural rubber, but the great advances in quality which they permit in the manufacture of many rubber specialties with specific qualities already has built up a large market.

Whatever process or processes finally become established as most practical and economical, the United States has been assured that within relatively a few months the plant facilities required to make the 600,000,000 pounds of rubber annually consumed could be built and put in operation. Many of the technical kinks have been worked out in pilot plant operation. Several companies already have gone into limited commercial production on the petroleum-base synthetic rubbers, which apparently will be the ones to take over the large-volume rubber uses.

Currently available supplies of the petroleum hydrocarbons most useful as starting points for the manufacture of synthetic rubber—benzene, ethylene, and butadiene—are of such magnitude that it has been estimated production readily could reach more than 200 times the current consumption of rubber in the United States.

CUMMINS

Supercharged

is the answer to minimum weight per horsepower in diesel engines

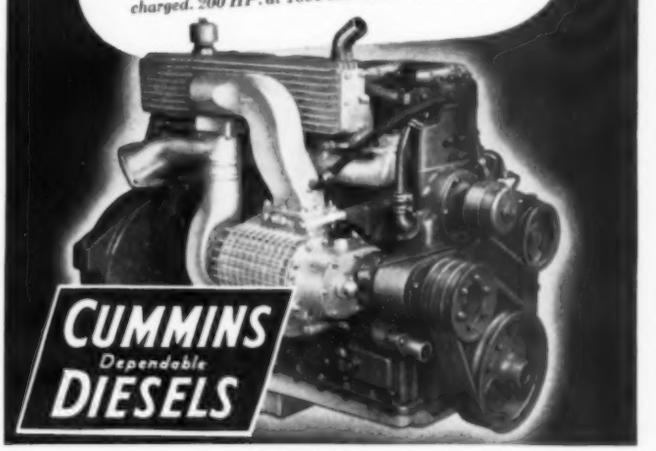
Supercharging gives you approximately one-third more power in the same space with less weight per horsepower.

Supercharging gives you increased flexibility . . . smoother running.

Supercharging gives you greater fuel and lube oil economy per horsepower.

Ask for the new bulletin, "The Logic of Supercharging." Cummins Engine Company, 1216 Wilson Street, Columbus, Indiana.

This Model HBS-600 Cummins Diesel is supercharged. 200 HP. at 1800 RPM., Weight 2580 lbs.



CUMMINS Dependable DIESELS

Cut Washing Time And Protect Your BUS & TRUCK FINISHES

•

BEAURLINE FOUNTAIN BRUSHES

The giant **pure soft-bristle** head of superior Beaurline brushes **washes faster** . . . **cleans** more **thoroughly** . . . **lasts longer** . . . AND replaces easily and quickly at **small cost.** All-aluminum construction eliminates deterioration and rubber bumper head protects finish from mars. Ask any of the many large fleet operators who have **proved** Beaurline **economy** by **actual test!**

Write for FREE Literature!

Rapids Products Co.

220 Sixth St., N. E. **P. O. Box 207**

Cedar Rapids, Iowa

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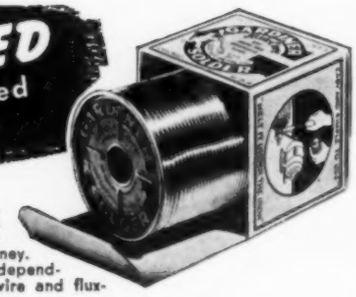
By Thrift-Minded Solder Users



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Hotel Chelsea is ideally located for your vacation in the city-a few steps from the lake and Lincoln Park where all sports and recreations are in full sway. Walking distance to Wrigley Field, home of Chicago Cubs. Two minutes from the world-famous Aragon Ballroom, theatres, exclusive shops and night clubs. Rapid transportation to all parts of the city. Rooms and suites unusually comfortable and home-like.

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Beware of Partly Diluted Imitations

Some stores may use the name of Gunk loosely to identify Inferior Products — Don't Be Fooled — If the degreaser does not bear the Gunk nameplate, it is not Gunk and should be flatly refused. Free Carburetor Cold Tank Formula to Gunk Users On Request.

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Most Trucks Privately-Owned, Survey Shows

BY FAR the greatest portion of the trucks registered in the United States in 1939 were small, privately-owned vehicles, and the largest single group of truck owners were farmers, an analysis made by the American Petroleum Industries Committee and published in its Tax Economics Bulletin reveals. The Committee found that one out of every four trucks registered last year was a farm vehicle, that 88 per cent of all trucks were privately-owned, and 92 per cent had a capacity of two tons or less.

Despite the small size of most trucks and the large number in the hands of farmers and other low income groups, the special highway taxes paid on each truck were found to average $100.50, producing an all-time high total revenue from motor truck sources of $430,826,000. These special truck taxes, which do not include personal property and other general tax payments, were equivalent to the entire maintenance costs of all state highways plus one-third of all state highway construction costs during the year.

The Committee found that only 4.7 per cent of the trucks registered last year were interstate for-hire carriers and that 79,332 trucks were owned and operated by the railroads, including the American Railway Express Agency. Although the average motor truck last year was driven 10,100 miles, more than four out of five trips made were for distances of less than 20 miles.

In discussing motor truck transportation, the Committee quotes from Federal Coordinator Joseph B. Eastman's report, *"Public Aids to Transportation,"* which stated, "by bringing about lower transportation charges, particularly on short hauls, and by forcing reductions of rail and water rates, motor vehicles have put tens of millions of annual savings into the pockets of users of transported articles."

•

Survey on "Annual Reports to Employees"

IN THE PAST two years there has been a rapid growth in the number of companies issuing special annual reports to employees as a means of giving them a better understanding of company problems. Like the stockholder's dividends, the security of the employee's job depends upon a company's earnings. The employee thus has a direct interest in the results of a company's operations. This at least is the conclusion of 116 companies whose practices in issuing annual reports to employees are described in a new report, *"The Annual Report to Employees,"* prepared by the Policyholders Service Bureau of the Metropolitan Life Insurance Company.

The report shows the varied and ingenious ways that financial statements are being presented and interpreted in these employee reports so as to make them understandable to those unversed in accounting terms. The study describes and illustrates the different methods of presentation employed, the media through which the report is transmitted, subject matter, physical make-up and related topics. The objectives of this type of activity and the results that may be expected by management are also discussed.

In the report particular attention is given to the trends and changes that have taken place in these employee reports—the new and improved practices that have been developed—by making comparisons between the most recent editions of such reports with those issued in prior years. Free use is made of illustrations and excerpts from typical reports are included. An ap-

pendix lists the names of companies that have provided such reports for employees.

Copies of *"The Annual Report to Employees"* are available from the Policyholders Service Bureau, Metropolitan Life Insurance Company, One Madison Avenue, New York. . . . Mention FLEET OWNER, please.

•

Smaller Trucks Mean Higher Costs

THE COSTS of transporting petroleum products increases as the capacity of the tank trucks used in delivery is reduced, exhaustive studies made by American Petroleum Institute reveal. Legislation designed to limit the capacity of tank trucks, therefore, would have the direct effect of penalizing the consumers of petroleum products, who eventually must bear the increased costs.

The results of these studies are illustrated in charts, available on request. In these charts they compare the transportation costs per gallon of gasoline for various size units operated under similar conditions. Included are all fixed costs, such as wages, license fees, depreciation and insurance, and all variable costs, such as repairs, tires, and motor fuel. Each unit compared travelled a distance of ten miles to the first stop, made a delivery every .5 miles, and delivered from 700 to 900 gallons at each station.

Evident is the fact that it costs more than twice as much to deliver a given quantity of gasoline in a 600-gallon unit than it does when deliveries are made in a unit of 3,300-gallons capacity. A reduction in capacity from 3,300 gallons to 1,500 gallons for example, means an increase of 30% in transportation costs.

Furthermore, the relatively high costs of transporting gasoline in units of small capacity is multiplied as the distance to the first stop is increased.

For example, the cost of using a tank with only 600 gallons capacity is 82% greater than when a 3,300-gallon unit is used, if the unit must travel five miles to make the first delivery. But if the distance to the first stop is fifteen miles, the use of the 600-gallon unit becomes nearly two and one-half times as costly. If the capacity is reduced to 1,500 gallons, increases in costs vary from 27% to 40%, depending upon the distance to the first delivery.

•

Some Data on California Car Fires

ABOUT 500 persons are burned to death and 1,500 or more are seriously burned in car fires, according to the National Safety Council. These figures are corroborated by computations based on the number of deaths and injuries from this cause, that occurred in the state of California in 1937.

Victor W. Killick, Chief of the Bureau of Statistics of that state, noted: "A sensational feature of the 1937 traffic casualties was that spectacular fires occurred in at least 85 accidents. These fires cremated 37 persons and seriously burned 123 others."

The vehicles registered in the United States that year totaled 29,705,220, and in California, 2,483,653, or about eight per cent of the total. On this basis, there were about 462 persons cremated and 1,537 seriously burned throughout the nation in auto fires resulting from accidents.

These figures, of course, are independent of the total of car fires that occur from all causes. A recent survey disclosed that an average of 11.53 per cent of all fire alarms in American cities were for car fires.

AN "EXPERT" IN A DAY

(That's What Our Fleet Customers Tell Us)

NO SPECIAL skill is required to properly brand tires with the Everhot Electric Brander, shown above. Anyone in the shop (with a little practice) can become an "expert" in a day, fleet users tell us.

BUT WHY should you WANT to brand code numbers into your tires? . . . In order that you may keep ACCURATE records of tire performance, mileage, retreads, etc.

IF you do not keep tire records, we shall be glad to help you install a simple, factory-approved Tire Record System. With every Everhot Brander we supply a liberal quantity of Tire Record Cards, together with full instructions for the use of the system. The Everhot Brander is rugged, simple and will last a lifetime.

A Post Card Brings All Details . . . . No Obligation

EVERHOT MANUFACTURING CO.
MAYWOOD, ILL.

AMERICA'S FINEST... and MOST COMPLETE LINE

FLARES

. . liquid burning
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MODEL NO. 600

Liquid burning. Withstand wind velocity to 50 m.p.h. Burns up to 16 hours. Tested.

Whatever style you prefer, you'll feel safer and comply with the strictest requirements . . . local, state or I.C.C. . . . when your vehicles carry K-D FLARES.

APPROVED

Write for
NEW CATALOG
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MODEL NO. 604

Electric. Fresnel type lens. One-piece body. Tested.

Member by invitation . . . Rice Leaders of the World Ass'n

The K-D LAMP Co.
CINCINNATI, OHIO

WHEN GEAR FAILURES OCCUR TOO OFTEN INSIST UPON –

"STURACO"
EXTREME PRESSURE ("EP")
GEAR LUBRICANT

D.A.STUART OIL CO. Ltd.
ESTABLISHED 1865
CHICAGO U.S.A.
Warehouses in Principle Industrial Centers

This FOUNTAIN BRUSH
FOR WASHING TRUCKS—BUSSES
CUTS WASHING TIME IN HALF!

Quickest, easiest, best for fleet care. Made in hollow cast aluminum head with four foot handle supplying continuous stream of water. Bristles sturdily set in head and flare to 8" diameter. Weighs only 2¾ pounds. This brush will easily pay for itself many times over in a few months. ORDER TODAY and ask also for FREE descriptive folder.

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New York's Popular HOTEL LINCOLN
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Each with Bath, Servidor, and Radio. Four fine restaurants acclaimed for cuisine.

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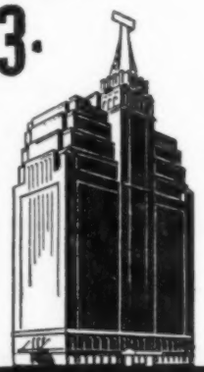

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REDUCE MAINTENANCE COSTS
by replacing common nuts with Elastic Stops ... the nuts that hold tight under any condition of vibration and hard service.

A 56-page Catalog and Data Book contains a graphic explanation of the Elastic Stop principle, presents test and application data, and lists the complete line of nuts • Write for a copy.

ELASTIC STOP NUT CORPORATION
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Elastic Stop SELF-LOCKING NUTS

Pictures to Assist in Safety Campaign

DETROIT'S police department now has 135 men in their accident-prevention bureau who are trained to handle cameras. Pictures are playing an important part in preventing traffic accidents and apprehending violators.

Highway Safety Will Be Taught in Tennessee

NINE different courses for traffic engineers, enforcement officials, adult and child educators in safety and driver-training, safety organization executives, fleet safety directors and others, will be offered at the National Institute for Traffic Safety Training to be held August 12-24 at the University of Tennessee at Knoxville.

Sponsoring organizations include the Automotive Safety Foundation and ten other nationally-organized highway safety organizations.

•

State College Discusses Transportation

INTEREST in transportation continues to be evidenced wherever groups or associations gather. On the program of the American Institute of Cooperation, which held its 16th annual meeting recently at Michigan State College, transportation found a place on four different sections of the discussions. Fruit handling, potato marketing, motor trucking of grain and petroleum transportation were listed among the program topics.

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VELLUMOID

Cut or Tap Out Gaskets Quickly From Sheet VELLUMOID
No delay—keep VELLUMOID on hand and you have Quality Gaskets as you need them.
Sold through Jobbers. The Vellumoid Co. Worcester, Mass.

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WOLVERINE
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Comfort at the Wolverine means more than just its excellent accommodations. An atmosphere of congeniality and friendliness is ever-present within this famous hotel, making each guest feel the warmth of home-in the courteous service of trained employees and in the hospitable attitude of the management.

500 ROOMS WITH BATH *from* **$1.50**

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New • MANAGEMENT • PRICE POLICY ROOMS

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HOTEL WISCONSIN

Owner operated by the Milwaukee Hotel Wisconsin Co.
Lewis S. Thomas, Manager

IN THE CENTER OF **MILWAUKEE**

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LIGHTEST WEIGHT F

Length — 26 feet
Axle — 13,000# cap.
Brakes — 16½ x 5 x ¾
Tires — 900 x 20 dual
Weight — 5350

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DEPARTMENT OF HIGHWAYS
BUREAU OF MOTOR VEHICLES

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June 29, 1940

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Trailmobile
(Make of Vehicle)
Van (Type of Body) 35070 (Motor Number)

I do hereby certify that the weight as shown by the figures punched on the margin of this slip is the correct weight of the vehicle specified above fully equipped.

Fred Schemmel
(Weigh Master)
Henry Feldman Co.
(Name of Station)
4667 Smithfield
(Location of Station)
Howe
(Make of Scales)
7/21/39
(Date Scales Were Last Tested)

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"That weight ticket showed me how to cut tare, costs and turn payloads into profits."

The men who pay the bills have found the answer to overloads and the means to more profitable payloads.

"What! No special equipment to handle maintenance? — I'm for it."

Shop men who have been through the mill vote a straight ticket for this new Trailmobile.

"Don't tell me — I know it's the easiest pulling trailer on the road."

Drivers know this new unit has all the easy pulling qualities of the old Trailmobile.

THE TRAILER COMPANY O
New York, Cleveland, Chicago, O

MORE TONS PAYLOAD MORE $$ PROFIT

Safe OPERATION...

TRAILMOBILE OUTSIDE FRAME *trailer*

Forget any preconceived notions of how trailers have been made in the past and see this entirely new — and vastly different — light weight unit by Trailmobile. Here are new methods of design that permit the lowest equipment weight — with sturdy construction that hauls capacity loads safely for the greatest total mileage at rock bottom maintenance cost. It's the BIG PAYLOAD trailer that makes you more net profits—without paying premiums for high priced metals or specialized manufacturing and maintenance processes.

FOR MODERN EQUIPMENT THAT WILL MAKE YOU MORE MONEY FROM HAULING OPERATIONS, DROP A NOTE FOR DETAILS OR CALL THE NEAREST TRAILMOBILE OFFICE.

...they whip all the trouble runs and bring ... big payloads through on schedule.

...branches and operations managers count ... Trailmobile to deliver the goods -- on ...

O.K.—I want the details of how you get more strength, with less weight, in that new Trailmobile. I'll not promise anything, but I'm willing to listen.

Name .....

Address .....

...MERICA, CINCINNATI, OHIO

... — branches and dealers everywhere

Dear Bill: At last I've found the piston that has everything....
This beautiful $1.75 Sealed Power Girl Ash Tray (figure in chromium)—only 50c with top of box of Sealed Power Rings. Send to Sealed Power Corp., Muskegon, Mich.
Dear Bill:
At last I've found the piston that has everything. It's made by Sealed Power of Lo-Ex alloy.

SEALED POWER PISTONS

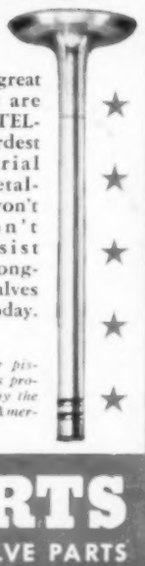
T-SLOT **LO-EX** CAM-GROUND

YES—Sealed Power Pistons of Lo-Ex* metal have everything. They're lighter in weight, which means bearing pressures are reduced so that bearings last longer. They have a low coefficient of expansion which makes close clearances possible. They feature the t-slot, cam-ground design which assures long life and no collapsed skirts. And their aluminum alloy content permits maximum heat flow throughout the piston.

You can't ask more of a piston than what Sealed Power Pistons of Lo-Ex metal give you. Yet they cost no more. Sealed Power's name is plainly stamped in the castings. Look for it—your way of identifying the best!

SEALED POWER CORPORATION
MUSKEGON, MICHIGAN
Canadian Factory at Windsor, Ontario

FIVE STAR VALVES



These great valves are faced with STELLITE—the hardest facing material known to metallurgy. They won't warp . . . won't break . . . resist wear . . . are long-lived. Finest valves on market today.

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PISTON RINGS • PISTONS • PINS • EXPANDERS • CYLINDER SLEEVES • VALVES • VALVE PARTS
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